

DEPARTMENT OF TRANSPORT  
CIVIL AVIATION DIVISION

---

**INFORMATION CIRCULARS TO  
CIVIL AIR PILOTS AND AIRCRAFT OWNERS  
1927-1937**



OTTAWA  
J. O. PATENAUDE, I.S.O.  
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY  
1938

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The following Information Circulars to Civil Air Pilots and Aircraft Owners issued during 1927-37 are in force at this date and are printed herein:—

- 1928: A/8, A/11, A/12, A/14, A/17.
- 1929: A/1, A/4, A/6, A/7, A/10, A/19, A/21, A/22, A/24, A/27, A/33, A/36, A/39, A/56, A/57, A/59, A/63, A/70.
- 1930: A/4, O/1, O/4, O/6, O/7, O/9, O/10, O/11, O/12, O/16, O/21, O/23, O/24, O/26, O/28, O/30, O/32, O/34, O/42, O/46, O/47, O/48, O/49, O/51.
- 1931: C/6, M/2, M/6, O/2, O/3, O/6, O/12, O/13, O/17, O/19, O/20, O/22, O/23.
- 1932: O/1, O/2, O/3, O/5, O/7, O/19, O/21, O/22, O/28.
- 1933: O/1, O/2, O/7, O/9, O/11, O/14, O/18, O/23, O/27, O/30, O/33, O/37, O/39, O/40, O/42, O/43, O/44, O/45, O/46.
- 1934: O/7, O/11, O/14, O/18, O/24, O/25, O/28, O/33, O/36, O/38, O/39, O/41, O/42, O/44, O/45.
- 1935: M/5, M/7, M/9, O/2, O/3, O/5, O/7, O/11, O/15, O/19, O/23, O/24, O/26, O/27, O/31.
- 1936: M/4, M/6, O/1, O/4, O/7, O/10, O/11, O/12, O/16, O/18, O/20, O/21, O/23, O/24, O/26, O/27, O/29, O/30.
- 1937: M/11, O/1, O/2, O/3, O/4, O/6, O/7, O/11, O/12, O/13, O/14, O/16, O/17, O/18, O/20, O/21, O/23, O/25, O/26, O/27, O/28, O/31, O/32, O/33, O/34, O/36, O/39, O/40, O/41, O/42, O/43, O/46, O/47, O/49, O/51, O/53, O/54.

All Information Circulars issued to Civil Air Pilots and Aircraft Owners during the years 1927-37 other than those listed above should be regarded as cancelled.

Where reference to Air Regulations 1920 were previously made, circulars have been amended to refer to Air Regulations 1938.

*Controller of Civil Aviation.*

Dated at Ottawa, September 1, 1938.

## NOTICE

### Changes of Address

It is important that all Civil Air Pilots and Aircraft Owners notify this Department promptly of any change of address in order that the delivery of Circulars and other matter may be assured.

### Aircraft Accidents

All aircraft accidents shall be reported to the Controller of Civil Aviation as required by Air Regulations 1938, Part VIII. If accidents involve death or injury to passengers, crew or third parties, they shall be reported by telegram. If damage does not extend beyond the aircraft, the accident may be reported by letter. In order that there should be no delay in carrying out the inspection of damaged aircraft or any investigation of the circumstances attending accidents, a copy of the telegram or letter should be sent direct to the District Inspector concerned.

Communications should be addressed to the Controller of Civil Aviation, Department of Transport, Hunter Building, Ottawa, Ontario.

### Air Regulations

Applications and inquiries relating to Air Pilots' and Air Engineers' certificates and examinations, registration and inspection of aircraft, and interpretation of air regulations should be directed to the District Inspector, Civil Aviation, for the district concerned.

### Air Regulations Districts

District Inspector, Civil Aviation, 400 Youville Square, Montreal, Que.  
Telephone—Belair 1125.

(Quebec, east of the 75th meridian of longitude, and the Maritime Provinces.)

District Inspector, Civil Aviation, No. 1, Montgomery Ave., Postal Section "K", Toronto, Ont. Telephone—Mohawk 2988.

(That portion of Ontario lying south of the main line of the C.P.R. from Montreal to Sault Ste. Marie and west of the 77th meridian of longitude.)

District Inspector, Civil Aviation,  
717 Dominion Public Bldg.,  
Winnipeg, Man. Telephone—95823.

(Manitoba and Northern Ontario west of the 86th meridian of longitude.)

District Inspector, Civil Aviation,  
Blowey Henry Building,  
Jasper Ave.,  
Edmonton, Alta. Telephone—22858.

(Saskatchewan, Alberta and the Northwest Territories.)

District Inspector, Civil Aviation,  
420 Public Building,  
325 Granville St.,  
Vancouver, B.C. Telephone—Trinity 4616.  
(British Columbia and Yukon Territory.)

## **Airways**

Inquiries concerning the inspection, licensing and registration of airports, the investigation, development and maintenance of airways and matters relating thereto should be directed to the office of the airways district concerned.

### **Airways Districts**

Headquarters District,  
Controller, Civil Aviation,  
Hunter Building, Ottawa.  
Telephone—2-8211, local 3357.  
(The Province of Ontario.)

District Inspector, Western Airways,  
423 Post Office Building,  
Regina, Sask. Telephone—29121.

(Yukon, Northwest Territories, British Columbia, Alberta, Saskatchewan and Manitoba.)

District Inspector, Eastern Airways,  
400 Youville Square,  
Montreal, P.Q. Telephone—Lancaster 5011.  
(Quebec, Maritime Provinces.)

Any parts of Canada not included in the above districts will come directly under the Controller of Civil Aviation at Ottawa.

### **Matters of Policy**

Matters of policy and any subject requiring a decision not already provided for in Air Regulations 1938. Information Circulars and other memoranda will be dealt with at Headquarters, Ottawa, and correspondence on such matter may be forwarded through the Branch Office or communicated direct to Ottawa.





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1928

A/8/28

26/6/28

### REGISTRATION OF UNITED STATES BUILT AIRCRAFT

Under the Air Regulations, 1938, all aircraft which are used for commercial purposes in Canada must be registered and passed as airworthy.

In the case of aircraft of new construction made in the United States, application for Registration and airworthiness certificates must be made on the usual forms, accompanied by the fees of \$5 for registration and \$5 for airworthiness for each aircraft, and supported by the *United States Department of Commerce Certificate of Airworthiness for Export*. Without this American certificate, it will be impossible to license the aircraft for use in Canada. The provision of such a certificate by the manufacturers should, therefore, be made part of any agreement of sale.

The United States certificate should be obtained before the aircraft is flown into Canada and application for the Canadian certificate should be made as far in advance of the date of delivery as possible.

If these instructions are complied with, there should be no delay in the granting of Canadian Certificates but, on the other hand, if these instructions are not complied with there will, of necessity, be considerable delay in the commencement of operations in which it is intended to use aircraft of United States origin.

A/11/28

13/7/28

### DANGEROUS FLYING

The following extract from the findings of a Court of Inquiry investigating a fatal accident to a "Moth" aeroplane at Winnipeg, Man., recently, is published for the information of all concerned:—

"Impress on all civilian instructors the necessity of warning all pupil pilots to make safe and reasonable approaches when coming in to land, and also to warn pupils and pilots of the tendency of "Moth" aircraft to lose speed rapidly in a tight vertical turn without engine."

Reference to "Sequence of Flying Instruction" will show the importance of ensuring having sufficient speed to overcome extra loading due to steep banking without engine, particularly when coming out of the turn.

It is also pointed out that if flying is practised in a regulation manner no steep turns or spirals near the ground will be found necessary, and all approaches should be carried out in such a way that the turns will be executed in a normal manner and at a reasonable altitude.

A/12/28

9/8/28

### LOW FLYING OVER GASOLENE STORAGE PLANTS

It has been brought to the attention of this Department that aircraft have frequently flown at low altitudes over gasoline storage plants. This practice is considered dangerous to public safety and in contravention of Part VI of Air Regulations, Canada, 1938. Pilots should make every effort to avoid flying over areas where large oil storage plants are situated.

A/14/28

22/8/28

### **PHOTOGRAPHS—RESTRICTED AREAS**

With reference to Part VIII, paragraph 5, Air Regulations, Canada, 1938. The Department of Transport does not wish to restrict the activities of civil organizations by the creation of restricted areas.

It has been brought to the Department's attention, however, that photographs have been taken which might disclose certain information which, in the public interest, should not be published. It is, therefore, requested that aerial photographs should not be taken which might give information as defined in Part VIII, without reference to the Department of Transport.

A/17/28

13/9/28

### **DANGEROUS FLYING**

An accident has recently occurred whereby the pilot lost his life as a result of stunt flying close to the ground. The regulations in this regard have been ignored and attention is, therefore, drawn to them.

Part VI of the Air Regulations deals with dangerous flying and should be studied by all operators.

Paragraph 2 (c) states:—

“No person in any aircraft shall carry out any flying which, by reason of low altitude or proximity to persons or dwellings, is dangerous to public safety.”

This reference to low altitude flying is interpreted so that no stunting whatever shall be carried out at a lower altitude than 1,000 feet above the ground.

1929

A/1/29

8/1/29

### **LICENCES FOR AIR HARBOURS**

Owing to the rapid development of flying in Canada, commercial operators have established flying bases at various points without licensing same.

This practice is in contravention of Part 3, Air Regulations, Canada, 1938, and it is brought to the attention of all concerned that fixed operational bases must be licensed prior to the commencement of operations for such bases.

A/4/29

28/1/29

### **DANGEROUS OBSTRUCTION BOWMANVILLE, ONTARIO**

Messrs. Gooderham and Worts Limited, of Toronto, report that during foggy weather pilots have flown extremely low and close to their radio towers situated on the lake shore 2 miles east of Bowmanville. The radio towers referred to are 165 feet high and 215 feet above the water.

Pilots flying between Toronto and Montreal should exercise caution when flying in the vicinity of Bowmanville, Ontario.

A/6/29

9/2/29

### **DANGEROUS OBSTRUCTION PEACE RIVER, ALBERTA**

Pilots operating on the Peace River are hereby notified that a hazard exists in the form of a telephone line stretched across the Peace River from the village of West Peace River to the eastern bank of the Peace River approximately one mile south of the Central Canadian Railway Bridge at Peace River.

A/7/29

18/2/29

### **PASSENGERS NOT TO BE CARRIED WITH EXPLOSIVES IN AIRCRAFT**

The attention of aircraft operators is drawn to Part VIII, paragraph 8, Air Regulations, Canada, 1938, which provides that no passenger aircraft may carry explosives. Persons—the owners, or representative of the owners of explosives—carried in an aircraft in charge of such explosives, may accompany them as part of the aircraft crew.

With the above exception, no passenger may be carried on any flight during which explosives are part of the cargo of an aircraft.

Explosives transported by aircraft must be packed in substantial cases, clearly marked with the word "EXPLOSIVE" and the nature or trade name of the explosive.

A/10/29

6/3/29

### **AIRCRAFT EQUIPMENT AFFECTING VALIDITY OF AIRWORTHINESS CERTIFICATES**

Aircraft for which airworthiness certificates are issued by the Department of Transport are approved only for the equipment as stated on such airworthiness certificates.

If it is desired to make any change in equipment not included in the airworthiness certificate, full details of such alterations or modifications must be furnished the Department of Transport for approval.

Designs for ski, wheel or float equipment or attachments should be forwarded in sufficient detail to allow for the stressing of these components, the information required being General Assembly drawings, detail drawings, and specifications of material used.

The operation of aircraft with unapproved equipment renders the Airworthiness Certificate invalid and is in contravention of Air Regulations.

A/19/29

31/5/29

### **MARKING OF RUNWAYS OF SAFE LANDING AREAS**

(Aerodromes for use by DAY only.)

The boundaries of serviceable RUNWAYS or the limits of safe effective landing area, when total area is used, are to be indicated by a conical marker, meeting the following characteristics:—

- (a) Definable from at least 2,000' altitude, when gliding in to land, on taking off, or when taxiing on the ground.
- (b) Ability to stand the weather.
- (c) Offer a minimum of resistance, collapsible on collision with aircraft.
- (d) Low cost and economy.
- (e) Ease of manufacture and maintenance.



## SPECIFICATIONS

Marker—A cone.

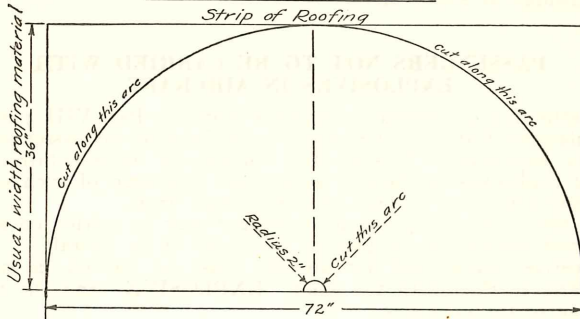
Dimensions—Diameter at Base approx. 35". Height approx. 31".

Material—Paroid Heavy Roofing Material.

Construction—Seam overlap 2", laced or riveted.

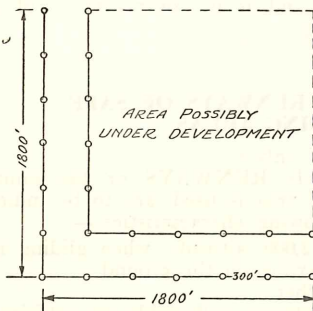
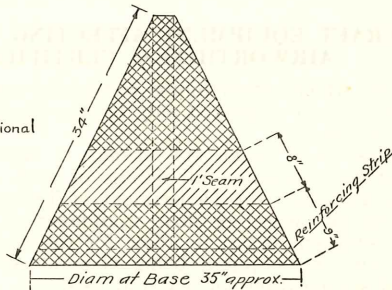
A-19/29.

### METHOD OF CONSTRUCTION



#### COLOUR LEGEND

-  White
-  International Orange



Specifications for Metal Cone Boundary Marker  
 & Light Standard may be issued later by the Department

FIG. 1.

- Base—Reinforced at the base by a light wooden hoop.
- Colour—The colour can be applied on the "weather side" of the material, which is the light rough side, by a first application of aluminum paint, followed by a coat of International Orange and white enamel paint. The aluminum paint base is necessary because of the action of the asphaltic oil bleeding through ordinary paint. The colour of the cone shall be International Orange with an 8-inch white strip nine inches from the base of the cone. This is a standard colour scheme to be universally adopted.
- Anchorage—By planting the cone slightly below the surface to prevent wind getting underneath.
- Position—To be placed on side boundaries of runways or area at intervals not exceeding 300 feet. The end of the runway or landing strip is determined by the last cone on the side boundary.

A/21/29

30/5/29

### **INTERNATIONAL REQUIREMENTS FOR AIRWORTHINESS**

That part of the requirements for airworthiness approved by the International Commission for Air Navigation, referring to minimum performance before issue of Certificate of Airworthiness, is now being applied by States signatory to the Convention.

It is proposed, therefore, to issue Certificates of Airworthiness to Canadian aircraft only when of a type which conform to the International requirements.

The date of application of this requirement will be the 1st of July, 1929, after which no Certificates of Airworthiness will be issued to land planes in Canada which cannot demonstrate the required performance. Certificates of Airworthiness for aircraft already issued will not be renewed should the performance of the aircraft not come up to International requirements.

A/22/29

7/6/29

### **ADDITIONAL DUAL INSTRUCTION FOR AB INITIO PRIVATE PILOTS**

In view of the increasing number of accidents to inexperienced pilots, it is strongly recommended that all club members who have recently qualified for their licences ab initio should receive 30 minutes further dual instruction after each 5 hours' solo flying until they have reached a total of 50 hours.

This procedure will enable instructors to correct any tendency to faulty flying at a time when the pilot is most susceptible to good teaching.

A/24/29

21/6/29

### **DANGEROUS OBSTRUCTIONS COLUMBIA AND KOOTENAY VALLEY, B.C.**

A number of dangerous obstructions exist in the Columbia and Kootenay Valley on a direct line from Trail, B.C. to Grand Forks, B.C.

Four power transmission pole lines, three lines carrying the usual three line high-voltage cables and one line carrying six high-voltage cables.

From Trail north to Blueberry, these lines are situated on the west bank of the Columbia River and are approximately half a mile north of Blueberry. They are carried across the Columbia River from two separate points.

A/27/29

19/6/29

### **DUAL CONTROL AIRCRAFT**

When passengers not under instruction are carried in aircraft fitted with dual control, the control column and rudder bar must either be removed or rendered inoperative.

When engine controls are duplicated, passengers should be warned against interfering with them.

A/33/29

10/7/29

### **DANGEROUS FLYING**

Air Regulations, Canada, 1938, expressly forbid certain flying operations which are considered dangerous.

Flights have occurred in the past in direct contravention to these regulations which have resulted in fatal accidents.

Circular Letters have been sent to all clubs and commercial pilots, drawing their attention to the necessity for observing air regulations, but in spite of this the infractions continue and fatal accidents, attributable to such infractions, are increasing in number.

This letter, therefore, is a last warning to all clubs and pilots, that air regulations must be observed, and that violations of Part VI, dealing with dangerous flying, will be dealt with by suspension or cancellation of certificates, as well as legal prosecution.

The penalty for violation of air regulations is a fine not exceeding one thousand dollars, or imprisonment for any term not exceeding six months, or both fine and imprisonment.

A/36/29

24/7/29

### **YELLOW STREAMERS—"AB INITIO" SOLOISTS**

During the first solo flight a pupil is apt to forget or disregard the rules and regulations governing traffic in the vicinity of aerodromes. In order to avoid any chance of collision, the following procedure is recommended for adoption:—

For a period of two hours' solo flying of an ab initio pupil, yellow streamers should be tied to the rear struts of the aircraft when the soloist is flying. This signal will warn other pilots to avoid the soloist and allow him right of way.

A/39/29

/29

### **DANGEROUS OBSTRUCTION AMOS, QUEBEC**

Pilots are advised that a high tension power line crosses the Harricanaw River at Amos, P.Q., from a sub station situated on the east bank. These wires are situated approximately 400 yards south of the railroad bridge.



A/56/29

3/10/29

**DANGEROUS OBSTRUCTION  
SECOND NARROWS BRIDGE, VANCOUVER, B.C.**

The attention of all pilots is drawn to a serious flying hazard which exists at the Second Narrows Bridge, Vancouver, B.C., as described below.

**OBSTRUCTION:**—High tension power line.

**LOCATION:**—400 yards east of the Second Narrows Bridge, Vancouver Harbour, B.C., at an elevation of 200 feet. The span between steel lattice towers is in excess of 1,500 feet.

The above mentioned obstruction is not marked in such a way as to be visible against the back ground of high mountains.

A/57/29

5/10/29

**LANDING SEAPLANES UNDER GLASSY  
WATER CONDITIONS**

The attention of all pilots is drawn to certain precautions which should be taken by them when landing seaplanes under glassy water conditions.

Owing to the reflection of light from the surface of smooth water, it is practically impossible, under certain conditions, to judge the height of a seaplane when landing.

The following procedure is recommended:—

*(a) For a forced landing without engine.*

Should a pilot be forced to land on glassy water after the engine has failed, a landing should be effected as close to the shore line as possible and the height of the seaplane above the water judged from the position of the shore line. Floating objects, weeds, and reed beds can also be made use of for this purpose.

*(b) For a normal landing on glassy water.*

A landing of this kind should seldom be made without the use of the engine. The practice recommended is to glide down to approximately three or four hundred feet and then open the throttle so that the glide is reduced to a relatively small angle. The throttle should be left open until the seaplane has been flattened out and until the pilot's eyes are able to focus on the surface of the water, or until the bottom of the seaplane touches the water. The throttle should then be pulled back and the seaplane held off the surface as long as possible so that a slow landing is made, thus reducing the tendency to bounce.

Pilots are warned to remove their goggles when landing under smooth water conditions as they have been found to interfere with vision.

The above procedure should be continually practised so that, in the event of a landing having to be made on glassy water, there will be no lack of confidence on the part of the pilot.

A/59/29

14/10/29

**DANGEROUS ALIGHTING AREA,  
LAKE MANITOBA**

The attention of all operators flying in the Lake Manitoba District is drawn to the danger of alighting in the northern part of the lake.

The water in the area varies in depth from 6 inches to 2½ feet, and is studded with fairly large rocks coming to within, in many cases, an inch or two of the surface of the water.

A/63/29

24/10/29

### **ACROBATICS—PARACHUTES TO BE WORN**

The increasing number of fatal accidents in which club aircraft are involved calls for the utmost care in the conduct of flying operations by club members both while under instruction and after taking out their licences as private or commercial pilots.

It is realized that pilots are frequently desirous of carrying out acrobatics and there are no regulations against licensed pilots carrying out acrobatics when flying solo at a safe altitude and well away from the aerodrome, provided the aircraft is passed for acrobatics and the acrobatic load is not exceeded.

It is strongly recommended, however, that club members, when indulging in authorized acrobatics, should wear parachutes. In so far as aircraft, the property of the Department of Transport which are on loan to flying clubs are concerned, this regulation is to be considered a rule and acrobatics are only to be permitted when licensed pilots are flying alone and are wearing an approved type of parachute.

A/70/29

26/11/29

### **DANGEROUS AREAS HIGH VOLTAGE TRANSMISSION LINES AND TOWERS**

It has been reported that pilots are following power transmission lines under conditions of low visibility as an aid to navigation, overlooking the danger of this practice should there be engine failure. There is not only the danger to the pilot and passengers of the aircraft to be considered, but the serious dislocation of industry which would follow any damage to the transmission line.

Pilots are warned against low flying in the vicinity of high voltage transmission lines

1930

A/4/30

3/11/30

### **OBSTRUCTIONS—PUBLIC AIRPORTS**

A report has been received that an unlighted obstruction has been placed on a public airport. The attention of all concerned is drawn to the danger of erecting any obstructions on an airport without marking them. Any obstructions so placed as to cause a hazard should be marked, especially in the case of airports at which night flying is being performed. Such obstructions should be marked with a red danger cone with a white band for day marking and a red light at night.

It is recommended that, before any structure is placed on an airport, an Inspector of the Civil Aviation Division, Department of Transport, be consulted.

O/1/30

17/1/30

### **WING LOCKING PINS IN FOLDING WING TYPE AIRCRAFT**

An accident has recently occurred to a folding wing type biplane, due to the wing locking pin in the front spar of the top plane not being inserted in its correct position through the lugs in the centre section and main spar.



The aircraft took off and was climbed to about 1,400 feet, the top wing being held in position due to anti-drag force set up whilst climbing, but on flattening out the top wing folded back owing to the change from anti-drag to a drag force, and the aircraft crashed causing serious injury to the pilot.

All concerned are warned to take particular care to see that all locking pins in folding wing type aircraft are in their correct position before the aircraft takes the air.

**0/4/30**

**11/2/30**

### **FOLDING WING BIPLANES**

Owners are warned that the constructors of folding wing biplanes have been asked to develop immediately a device to prevent the wing locking pins from being pushed in unless the holes in the wing spar fittings are properly matched up with the holes in the centre section fittings. This device is to be of such a nature that it can be easily installed on existing aircraft.

In the meanwhile owners and operators of folding wing biplanes are urged to pay particular attention to the correct locking of the wings after these have been spread for flight. It is better to pin the top wing in place first because when this is done the lower wing root fittings are almost bound to overlap properly, whereas the reverse is not the case. Standing on the lower wing when it is not pinned must, of course, be avoided.

**0/6/30**

**27/2/30**

### **DANGEROUS OBSTRUCTIONS DUNVEGAN CROSSING, PEACE RIVER, ALTA.**

Pilots are warned that several telegraph, telephone, and ferry cables cross the Peace River at Dunvegan Crossing, which constitute hazards to persons flying in the vicinity.

**0/7/30**

**19/3/30**

### **DANGEROUS FLYING**

A "rocket zoom" in a low-powered training plane; an aircraft hanging vertically on its "prop" and falling over backwards; a vertical dive without sufficient altitude for a recovery; these were the immediate causes of a recent fatal accident.

The same manoeuvres performed at a higher altitude would have been safe.

Low flying, dangerous to the public, is already forbidden by Air Regulations. Any low flying, except for the purpose of taking off and landing, should be most strongly discouraged. Other nations have forbidden passenger-flying lower than 500 feet. It is felt, however, that in prairie country or over large stretches of water, low flying may be carried out with perfect safety.

It is not, therefore, desired to forbid such practice absolutely, but extreme caution is urged and the carrying out of acrobatics at low altitude should never be attempted.

0/9/30

28/3/30

### **EXPORTATION OF FUR FROM NORTHWEST TERRITORIES**

In connection with the exportation of fur from the Northwest Territories, Aircraft Operators are hereby notified that an ordinance was passed and came into effect on December 31, 1929, Section 6, of the FUR EXPORT TAX ORDINANCE, states:—

“No person, transportation company, or common carrier shall accept for transportation out of the territories any furs unless the furs or package containing the furs has been stamped or sealed by the Permit Officer as aforesaid.”

Copies of the Ordinance respecting the exportation of furs in the Northwest Territories, passed by the Northwest Territories Council in 1929, may be obtained upon application to the Director, Northwest Territories and Yukon, Department of Mines and Resources, Ottawa.

0/10/30

29/3/30

### **EXCEPTION TO CIRCUIT LAW CALGARY AIRPORT**

The left-hand circuit law, as laid down by Part V, Section C, Air Regulations, is waived in so far as the Calgary Municipal Airport is concerned and by local regulation *a right-hand circuit is to be observed* when any aircraft about to land or leave finds it necessary to make a circuit or partial circuit.

It is brought to the attention of all pilots that this is the sole exception to the circuit law in Canada and that great care must be taken in approaching the Calgary airport to see that the local ruling is observed and to note closely that no other aircraft is, through ignorance of the local regulation, making a left-hand circuit.

0/11/30

8/4/30

### **BLIND FLYING**

An accident recently occurred whereby the pilot and passenger were killed.

The Board of Enquiry, convened to investigate the circumstances, found that the immediate cause of the accident was the aircraft becoming out of control when flying over rough country and in thick fog, which prevented the pilot from seeing the ground. A secondary cause was that the pilot (flying approximately 80 degrees north of his course, where visibility was fair) failed to turn back when striking the fog area.

The recommendations of the Board are:—

That aircraft carrying passengers and mail over regular routes shall not be placed in charge of an air pilot until he has flown over the route as a second pilot at least once each way and that greater care should be exercised by aircraft operators to see that compasses are properly mounted and correctly swung.

The findings of the Board have been concurred in and the attention of operators is drawn to the recommendations above mentioned.

O/12/30

11/4/30

**DANGEROUS OBSTRUCTION  
ATHABASKA, ALTA.**

Pilots are warned that a dangerous obstruction exists at Athabaska, Alberta.

**LOCATION:** Athabaska, Alberta. (85 miles North of Edmonton.,  
Lat. 54° 43' N. Long. 113° 17' W.

**DESCRIPTION:** Ferry and telegraph wires crossing Athabaska River, as follows:—

(1) One 2" steel cable at about 35 feet above water crosses river directly in front of town at a point about 300 feet east of C.N.R. station.

(2) Two telegraph wires, parallel to ferry cable, about 100 feet above water, at a point directly opposite C.N.R. station.

(3) Two telegraph wires, parallel to ferry cable, about 200 feet above water, also directly opposite C.N.R. station.

These obstructions are not distinctly visible from the air due to the fact that the river here flows between banks rising abruptly to 250 feet (elevation 1900' above sea-level). The presence of numerous buildings, etc., serves to make the towers supporting the ferry cable inconspicuous.

O/16/30

3/5/30

**DANGEROUS OBSTRUCTION  
HAY RIVER SETTLEMENT, N.W.T.**

A dangerous obstruction exists near the Hay River Settlement, N.W.T.

A  $\frac{3}{4}$ -inch steel cable has been erected at a point  $4\frac{1}{2}$  miles southwest true from the Hay River Settlement and is approximately 25 feet above the water surface and crosses the stream at right-angles to the stream flow.

O/21/30

20/5/30

**DANGEROUS OBSTRUCTION  
BATTLEFORD, SASK.**

A transmission line has been erected crossing the Saskatchewan River between Battleford and North Battleford.

The terminal towers are 2,100 feet apart, with no intervening supports. The transmission consists of four bare cables  $\frac{3}{8}$  inch in diameter, carrying 3,000 Volts. The minimum elevation above high water mark is approximately 50 feet. The terminal towers are at present painted white.

O/23/30

5/6/30

**PARACHUTES**

A fatal accident recently occurred whereby an amateur parachute jumper lost his life. Investigation showed that the type of equipment used could, by a miscalculation on the part of an inexperienced jumper, become tangled to such an extent that extrication would be impossible.

Air Regulations do not forbid parachute jumps but for the safety of all concerned, it is strongly recommended that jumps should only be made for practice when an auxiliary emergency parachute is carried and also that the parachutes used should be of types which have proved themselves reliable.



**O/24/30**

**13/6/30**

### **SPINNING**

An accident recently occurred to a club aircraft whereby the pilot, a flying club student and the sole occupant of the aircraft, was killed. An investigation of the circumstances attending the accident disclosed that the pilot, when at an altitude of approximately 2,000 feet, attempted to spin the aircraft. In the attempt he half rolled the machine on to its back and in the ensuing dive, inverted, he was just regaining control when the aeroplane hit the ground.

In order to prevent similar accidents in the future, all pilots, and particularly pilot instructors, are warned that aircraft should be properly and completely stalled before attempting instruction in spinning, since the movements of the controls are almost exactly the same for flick rolling as for spinning, except for the difference in time.

**O/26/30**

**5/7/30**

### **DANGEROUS OBSTRUCTION ST. JOHN RIVER**

Pilots operating aircraft over the St. John River are warned to proceed with caution. A large number of high tension cables, telephone wires, and ferry cables cross the St. John River at numerous points throughout its length.

Particular care should be observed in the immediate vicinity of the Town of Bath, N.B., where wires and cables cross the River at five points within two miles.

**O/28/30**

**17/7/30**

### **ACROBATICS AND PARACHUTES**

An accident occurred recently whereby a pilot flying solo lost his life by the failure of the aircraft during violent acrobatics. The aircraft was of a type which has not been passed as airworthy by the Department of Transport and the pilot was not wearing a parachute.

The stunting of privately registered aircraft by licensed pilots operating in open country at a reasonable height is not forbidden by Air Regulations but the attention of all pilots is drawn to the excessive stresses which are set up in an aircraft during violent acrobatics and, for their own safety, pilots should ensure themselves of the airworthiness of any aircraft they propose to stunt.

It is also strongly recommended that no stunting should be carried out at any time unless the pilot is equipped with a parachute of a type which has proved itself satisfactory in service.

**O/30/30**

**22/7/30**

### **ACROBATICS AT LOW ALTITUDE**

An accident recently occurred whereby an experienced pilot met his death through carrying out acrobatics at a low altitude.

Such flying has frequently been the cause of serious, and often fatal, accidents in the past, and the co-operation of all concerned is necessary to see that Air Regulations which expressly forbid such flying are closely observed.

Pilots wilfully breaking Air Regulations by dangerous low flying will be prosecuted according to law.

**O/32/30**

**6/8/30**

### **OPERATIONS FROM UNLICENSED AIRPORTS**

The carrying out of commercial flying operations from unlicensed airports is expressly forbidden by Air Regulations but it has been the practice of the Department to permit licensed pilots flying licensed aircraft to operate from unlicensed fields for short periods of time, always at the discretion and responsibility of the pilot concerned. Abuse of this privilege may lead to its cancellation so all operators are cautioned to follow the strictest requirements for safety in the selection of fields for temporary operations.

In particular, it has been brought to the attention of the Department that pilots are conducting joy-riding flights from sand bathing beaches. This is not considered a safe practice and any further commercial flying from any sand beach will be considered an infraction of Air Regulations and will be dealt with accordingly.

**O/34/30**

**16/9/30**

### **ST. HUBERT AIRPORT PILOTS' REGISTER**

All pilots operating from St. Hubert Airport are required to sign the register on arrival and departure.

It is requested that all pilots landing at St. Hubert report to the Registry Clerk in the Administration Building immediately on arrival.

**O/42/30**

**28/10/30**

### **DANGEROUS OBSTRUCTION WESTMINSTER B.C.**

It is hereby notified that a number of steel towers of considerable height have been erected on the Ruskin line in the vicinity of New Westminster, British Columbia, by the B.C. Electric Railway Company.

Aircraft operators are warned of this hazard, the location of which is shown in the sketch, *Figure 3*.

O-42/30

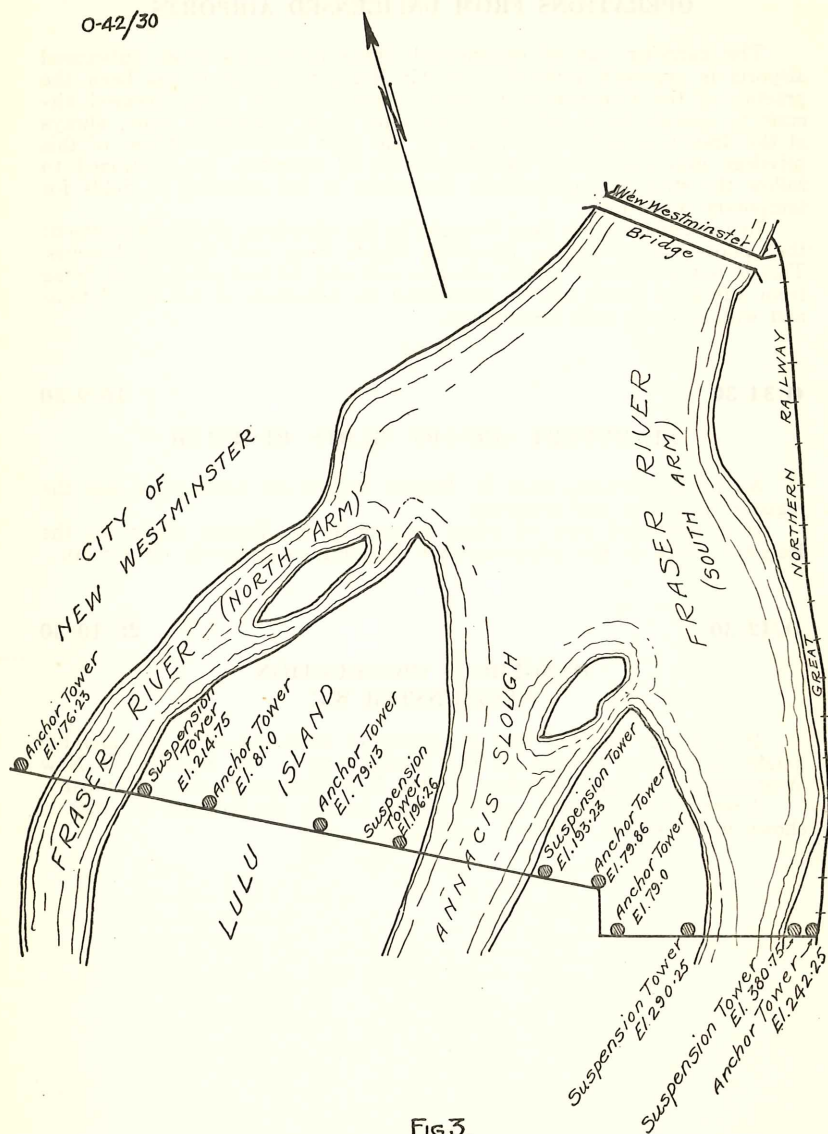


FIG.3.

O/46/30

24/11/30

### PROVINCIAL GASOLENE TAX

The Dominion Government is not liable to pay Provincial tax on gasoline provided for aircraft purposes but, since Provincial laws vary in the matter of refund to commercial users of aircraft, it has been decided that when gasoline is purchased for aviation purposes from retailers such as clubs and civil operating companies, the tax may be paid but must be shown as a separate item on all invoices covering such purchases.

This ruling applies only to the Provinces of Ontario, Manitoba, Saskatchewan and Alberta, since the other provinces do not allow any refund. Flying clubs and operating companies, therefore, which supply gasoline on repayment to State aircraft in these provinces should invoice the Department of Transport in accordance with the above instructions or, when cash is paid, the receipt should clearly show the distinction between the tax and the net amount paid for the gasoline.

These instructions will not apply to large wholesale dealers, since purchases made from them will continue on the present basis, that is to say, the tax will not be paid and a certificate to that effect is to be shown on all invoices covering gasoline purchased from such wholesalers.

O/47/30

3/12/30

### DANGEROUS OBSTRUCTION SKEENA RIVER, B.C.

It is hereby notified that five steel towers, approximately 165' high, have been erected by the Power Corporation of Canada Limited, on the transmission line from Big Falls to Prince Rupert across the Skeena River, 2 miles east of Tyee.

Aircraft operators are warned of this hazard, the location of which is shown on sketch, *Figure 4*.

O/48/30

15/12/30

### FOX FARMS

The Canadian National Silver Fox Breeders' Association has approached the Department of Transport with a view to obtaining co-operation in regard to the prevention of low flying over fox farms. This is liable to cause loss and damage, especially during the whelping season which lasts from February to the end of May.

The Department has advised the Association that so long as there is no distinguishing mark by which fox farms might be identified, it was difficult for pilots to recognize them and suggested that the watch towers on the farms might be painted chrome yellow and black and that, in addition, a red flag should be flown from a low mast on the tower to aid the pilot to identify the farm.

Where watch towers do not exist, the erection of pylons at least twenty feet high, similarly painted to identify the farm, was suggested.

At farms located on air mail routes flown at night, it was further suggested that the owners might display on the watch tower a red light of sufficient candlepower and intensity to be seen at least three miles under conditions of fair visibility.

If fox farms were marked in this way, the Department would undertake to notify all pilots and operating companies of these distinguishing marks and to warn them to avoid the location as far as possible, especially during the months of February, March, April and May.



0/47/30

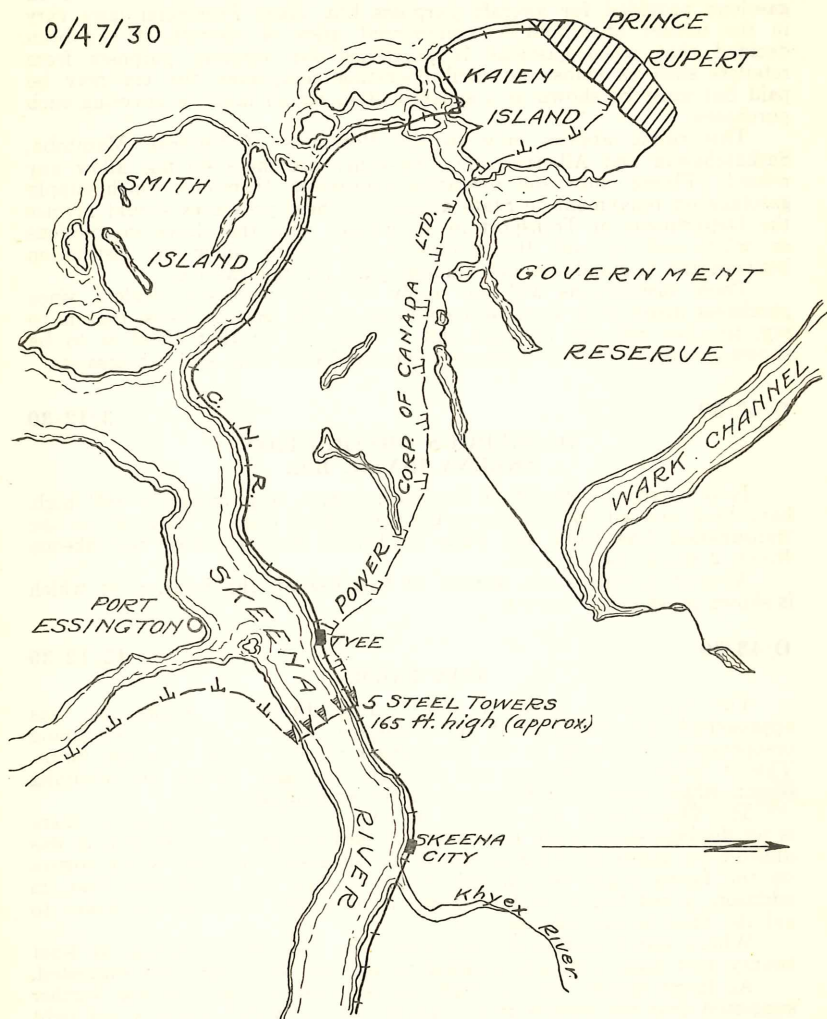


FIG. 4.



The Fox Breeders' Association has concurred in these proposals and are circularizing their members, very shortly, advising them of the arrangements made and asking them to take action to mark their farms accordingly.

Pilots are, therefore, warned that any location so marked should be avoided and that low flying directly over them should not be carried out and that during the months of February, March, April and May special vigilance be maintained.

The Fox Breeders' Association has been asked to notify the Department of the exact location of any farms on frequented airways, and when this information is received, a further circular will be issued giving the exact position of the farms, so that they may be more easily located and avoided.

O/49/30

16/12/30

### WILD LIFE PROTECTION

At the 1930 Conference of Provincial and Dominion Game Officials a good deal of concern was expressed in connection with the threat which aeroplanes make against wild life, including big game and water fowl. Action has already been taken by the Department of Mines and Resources and the Department of Transport with respect to the appointment of pilots in Canada as Honorary Game Officers under the Migratory Birds Convention Act.

In elaboration of this idea, it is desired to acquaint all pilots with the importance of the conservation of wild life and to urge them to become familiar with the game laws in force in the different provinces and to co-operate with all game officers to see that game law violations do not occur.

The following is a list of the Provincial and Territorial Game Officers in Canada and any information desired, relative to the limitations placed upon aircraft in connection with game hunting, and any information, in general, with regard to the preservation of wild life within the various Provinces may be obtained from the Officers shown in each Province:—

#### LIST OF PROVINCIAL AND TERRITORIAL GAME OFFICERS

Gold Commissioner,  
Dawson City, Yukon Territory.

Director, Northwest Territories and Yukon Branch,  
Department of the Interior,  
Ottawa, Ont.

Game Commissioner,  
411 Dunsmuir St.,  
Vancouver, B.C.

Game Commissioner,  
Department of Agriculture,  
Edmonton, Alberta.

Game Commissioner,  
Department of Railways,  
Labour and Industries, Furs and Game Branch,  
Regina, Sask.

LIST OF PROVINCIAL AND TERRITORIAL  
GAME OFFICERS—*Cont.*

Deputy Minister of Mines and Resources,  
Winnipeg, Man.

Deputy Minister of Game and Fisheries,  
Toronto 2, Ont.

Deputy Minister of Colonization, Mines and Fisheries,  
Quebec, P.Q.

Chief Game Warden,  
Department of Lands and Mines,  
Fredericton, N.B.

Chief Forester,  
Department of Lands and Forests,  
Halifax, N.S.

Deputy Minister of Agriculture,  
Charlottetown, P.E.I.

O/51/30

17/12/30

**DANGEROUS OBSTRUCTION  
ST. LAWRENCE RIVER**

All pilots operating between Toronto and Montreal should exercise caution in following the St. Lawrence River between Cedars and the Lachine Rapids. High tension lines have recently been installed near the Montreal Light, Heat and Power Company's power house at Cedars and a new high tension line is being installed at Lachine, crossing the river St. Lawrence where the aqueduct empties into the St. Lawrence River above the Lachine Rapids. These high tension lines are mounted on extremely high towers, one on each bank of the river.

**1931**

C/6/31

14/8/31

**FLYING INSTRUCTION—SPINNING**

A recent accident in which a flying club member lost his life was caused by the pilot attempting a "spin," but by mistake putting the aircraft into a prolonged vertical dive, during which it collapsed. The pilot obviously either never had thorough instruction in spinning or had forgotten how to execute the manoeuvre.

This, and other previous accidents of a similar nature, emphasizes the need of the utmost precaution on the part of all flying instructors to ensure that their pupils are thoroughly competent in performing this manoeuvre before being permitted to go solo.

To make the above effective, it is hereby ordered that a certificate from the Instructor that the pupil is competent and has carried out spins satisfactorily must be furnished, preferably with his application for pilot's licence but at the latest with his request for the test for pilot's licence.

## LIFE INSURANCE FOR PILOTS

In order that pilots should have some indication of the charges to be expected over and above standard rates on their life insurance, the various companies which have branches in Ottawa have been circularized and the results have been compiled and are shown in the tables on pages 38-39.

It should be borne in mind that many companies have special conditions which do not lend themselves readily to compilation and the figures quoted in these tables are not to be accepted as final in any case. They are, however, in general, correct and will serve as a guide.

Company	Age 20	Age 25	Age 30	Age 35	Age 40	Age 45	Age 50	Age 55	Age 60	Age 65	Age 70	Age 75	Age 80	Age 85	Age 90	Age 95	Age 100
Canadian Life	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00
Commercial Union	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00
Imperial Life	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00
London Life	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00
Manitoba Life	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00
Northwestern Life	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00
Ontario Life	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00
Prudential Life	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00
Rockefeller Life	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00
Standard Life	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00
Union Life	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00
Western Life	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00
York Life	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00	\$100.00

THE HARTWELL EXHIBIT PREPARED FOR PILOTS

# LIFE INSURANCE EXTRA PREMIUMS FOR PILOTS

Company	R.C.A.F. Officers	Air Force Reserve	Mapping and Forest Patrol Government Service	Mapping and Forest Patrol Private Companies	Between Well Equipped Airports Passenger Service	Between Well Equipped Airports Mail or Express	Aerial Photograph, etc.	Private Owner Pilot	Private Pilot	Aero Club and Flying School Instructors	Student Pilots
Confederation Life...	\$20 per M	\$10 per M	\$15 per M	\$25 per M	\$25 per M	\$30 per M	\$50 per M	\$20 to \$50 per M	\$30 to \$50 per M	\$25 per M	Not accepted
Dominion of Canada.	\$20 per M	\$10 per M	\$15 per M	\$25 per M	\$25 per M	30 per M	\$50 per M	\$20 to \$50 per M	.....	\$25 per M	Not accepted
Dominion Life.....	\$20 per M	\$10 per M	\$15 per M	\$25 per M	\$25 per M	\$30 per M	\$50 per M	\$20 to \$50 per M	\$20 to \$50 per M	\$25 per M	Not accepted
Excelsior Life.....	\$20 per M	\$10 per M	\$15 per M	\$25 per M	\$15 to \$25 per M	\$25 per M	\$50 per M	\$20 to \$50 per M	\$25 to \$50 per M	\$25 per M	Not accepted
Great West Life....	\$20 per M	\$10 per M	\$15 to \$25 per M	\$25 per M	\$15 to \$25 per M	\$25 per M	\$50 per M to decline	\$15 per M to decline	.....	\$25 per M	\$25 per M to decline
Imperial Life.....	\$20 per M	\$10 per M	\$15 per M	\$25 per M	\$15 to \$25 per M	\$25 per M	\$50 per M	Usually not accepted	Usually not accepted	\$25 per M	Not accepted
London Life.....	\$20 per M	\$10 per M	\$15 per M	\$25 per M	\$25 per M	\$30 per M	\$50 per M	\$20 to \$50 per M	\$25 to \$50 per M	\$25 per M	Not accepted
Manufacturers Life..	\$20 per M	\$10 per M	\$15 per M	\$25 per M	\$25 per M	\$30 per M	\$50 per M	\$20 to \$50 per M	\$20 to \$50 per M	\$50 per M	\$20 to \$25 per M
Metropolitan Life...	\$25 per M	\$15 per M	Not accepted	Not accepted	\$35 per M	\$35 per M	Not accepted	\$50 per M	\$50 per M	Not accepted	Not accepted
Monarch Life.....	\$20 per M	\$10 per M	\$15 per M	\$25 per M	\$15 to \$25 per M	\$25 per M	\$50 per M	Usually not accepted	\$25 per M	\$25 per M	Not accepted
Mutual Life.....	\$20 per M	\$10 per M	\$15 per M	\$25 per M	\$25 per M	\$30 per M	\$50 per M	\$20 to \$50 per M	\$15 per M	\$25 per M	Not accepted



North American Life	\$20 per M	\$10 per M	\$15 per M	\$25 per M	\$25 per M	\$30 per M	\$50 per M	\$20 to \$50 per M	\$15 to \$50 per M	\$25 per M	Not accepted
Ontario Equitable..	\$20 per M	\$10 per M	\$15 per M	\$25 per M	\$15 to \$25 per M	\$25 per M	\$50 per M	Usually not accepted	.....	\$25 per M	Not accepted
The Prudential.....	\$25 per M	\$10 to \$25 per M	With limitation of Liability only	B	A	A	B	With limitation of Liability only	C	D	D
Royal Insurance....	A	A	B	B	A	A	B	C	C	D	D
<p>A means 38c. per flight with a maximum extra in any one year of \$50 or of \$210 throughout the duration of the assurance.  B means 50c. per flight with a maximum extra in any one year of \$67 or of \$280 throughout the duration of the assurance.  C means Terms of acceptance depend upon the particular circumstances of the case.  D means Risk not accepted.</p>											
Sun Life.....	\$25 per M	\$15 per M	\$15 per M	\$25 per M	\$25 per M	\$25 to \$30 per M	\$25 per M	\$20 per M	\$25 per M	\$25 per M	Not accepted
The Travellers.....	†\$12 per M	*\$12 per M	*\$24 per M	†\$24 per M	†\$50 per M	*\$50 per M	*\$24 per M	*\$24 per M	*\$24 per M	*\$50 per M	Not accepted

\* Assuming 400 hours' experience.  
† Assuming 1,000 hours' experience.

M/6/31

12/5/31

### IMMIGRATION REQUIREMENTS—U.S.A.

Under the United States' Immigration law, it is necessary for all aircraft entering the United States to carry on board a list of the passengers and crew. These lists or manifests may be obtained upon prepayment from the Superintendent of Documents, Government Printing Office, Washington, D.C. The lists must be delivered to the Immigration Officer at the customs airport where the first landing is made in United States territory.

There is a civil penalty of \$500 for a violation of the Immigration law so all owners, operators, and pilots of aircraft, entering the United States from Canada should make themselves familiar with both customs and immigration laws and be in possession of the required documents and personnel list.

O/2/31

21/1/31

### DANGEROUS OBSTRUCTION FORT VERMILION, ALTA.

Notice is hereby given that the Government telegraph has been completed to Vermilion and crosses the river in a north and south direction 150 yards west of the Hudson Bay Company store. The height of the tower, north side is 67½ feet, height south side 61 feet, from centre sag of wire to low water level 60 feet.

The ferry cable crosses the river in a north and south direction four (4) miles west of the same land mark.

The sketch, *Figure 5*, shows the area and obstruction. Pilots in the vicinity should proceed with caution.

O/3/31

19/2/31

### SAFETY PRECAUTIONS IN INSTRUCTIONAL FLYING

An accident recently occurred whereby the pilot and passenger both lost their lives through an error in judgment on the part of the pilot in permitting his aircraft to go into a spin and in failing to recover.

The Board of Inquiry which investigated the accident reported that in their opinion there is a strong probability that the pilot's life would have been saved if the safety belt had been fastened. The Board wishes that their recommendation as to the importance of having safety belts properly fastened when flying should be broadcast to all pilots. This has previously been made the subject of an Information Circular but it is felt that a repetition of the warning is necessary.

It was also noted in the above accident that the pilot was carrying a passenger in contravention to Air Regulations in that he, as a pilot, had not received a pilot's certificate from the Department of Transport.

Owners of aircraft are responsible that no breaches of Air Regulations are committed and Instructors and Managers of flying schools are morally responsible that their pupils are taught safety in the air and have a knowledge of Air Regulations.

30/3/31

0/6/31

0/2/31.

DANGEROUS OBSTRUCTION  
LAC DU BONNET MAR.

Notice is hereby given that a dangerous obstruction is formed by the high tension power line which crosses the Winnipeg River near the District of Civil Government Air Operation Station, Lac du Bonnet, Manitoba.

The particulars are—  
Height of wires and poles above water ..... 115 ft.  
Distance from Station the ..... 400 yds.  
Direction from Station the ..... South.  
See sketch of the area, Figure 5.  
Pilot flying in this vicinity should proceed with caution.

12/8/31

0/12/31

Notice is hereby given that a dangerous obstruction is formed by the high tension power line which crosses the Winnipeg River near the District of Civil Government Air Operation Station, Lac du Bonnet, Manitoba.

25/8/31

0/12/31

Notice is hereby given that a dangerous obstruction is formed by the high tension power line which crosses the Winnipeg River near the District of Civil Government Air Operation Station, Lac du Bonnet, Manitoba.

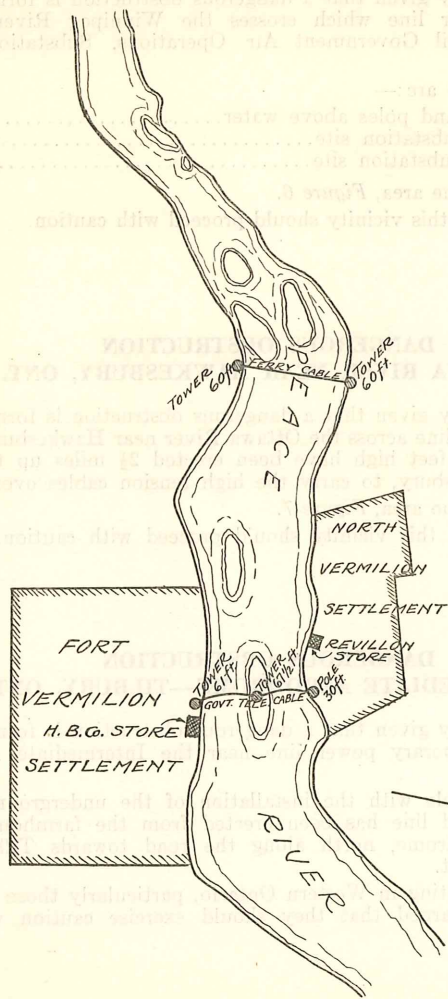


FIG. 5.

O/6/31

30/3/31

**DANGEROUS OBSTRUCTION  
LAC DU BONNET, MAN.**

Notice is hereby given that a dangerous obstruction is formed by the high tension power line which crosses the Winnipeg River near the Directorate of Civil Government Air Operations, Substation Lac du Bonnet, Manitoba.

The particulars are:—

Height of wires and poles above water..... 146 ft.  
Distance from Substation site..... 440 yds.  
Direction from Substation site..... South

See sketch of the area, *Figure 6*.

Pilots flying in this vicinity should proceed with caution.

O/12/31

19/8/31

**DANGEROUS OBSTRUCTION  
OTTAWA RIVER NEAR HAWKESBURY, ONT.**

Notice is hereby given that a dangerous obstruction is formed by the high tension power line across the Ottawa River near Hawkesbury, Ontario. Steel towers 212 feet high have been erected  $2\frac{1}{2}$  miles up the Ottawa River from Hawkesbury, to carry the high tension cables over the river.

See sketch of the area, *Figure 7*.

Pilots flying in this vicinity should proceed with caution.

O/13/31

26/8/31

**DANGEROUS OBSTRUCTION  
INTERMEDIATE AERODROME—TILBURY, ONT.**

Notice is hereby given that a dangerous obstruction is formed by the erection of a temporary power line near the Intermediate Aerodrome, Tilbury, Ontario.

Owing to trouble with the installation of the underground cable, a temporary overhead line has been erected from the farmhouse situated west of the Aerodrome, north along the road towards Tilbury for a distance of 1,500 feet.

All pilots operating in Western Ontario, particularly those on the Air Mail route, are warned that they should exercise caution when using this Aerodrome.



0/6/31

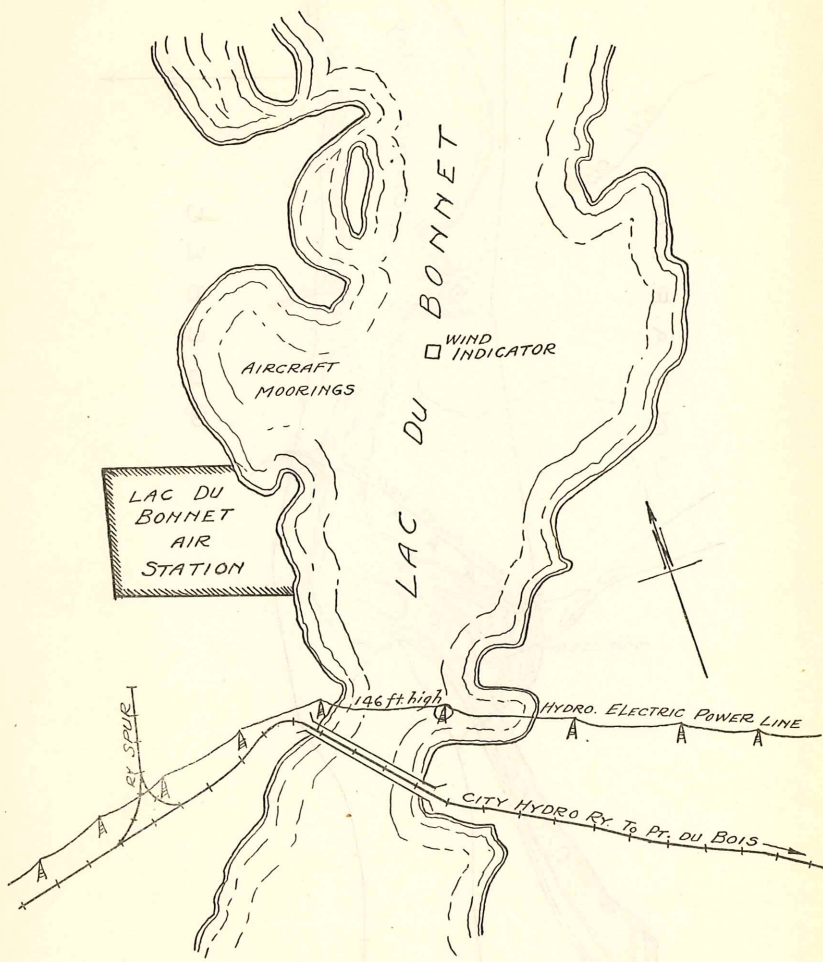


FIG. 6.

0/12/31

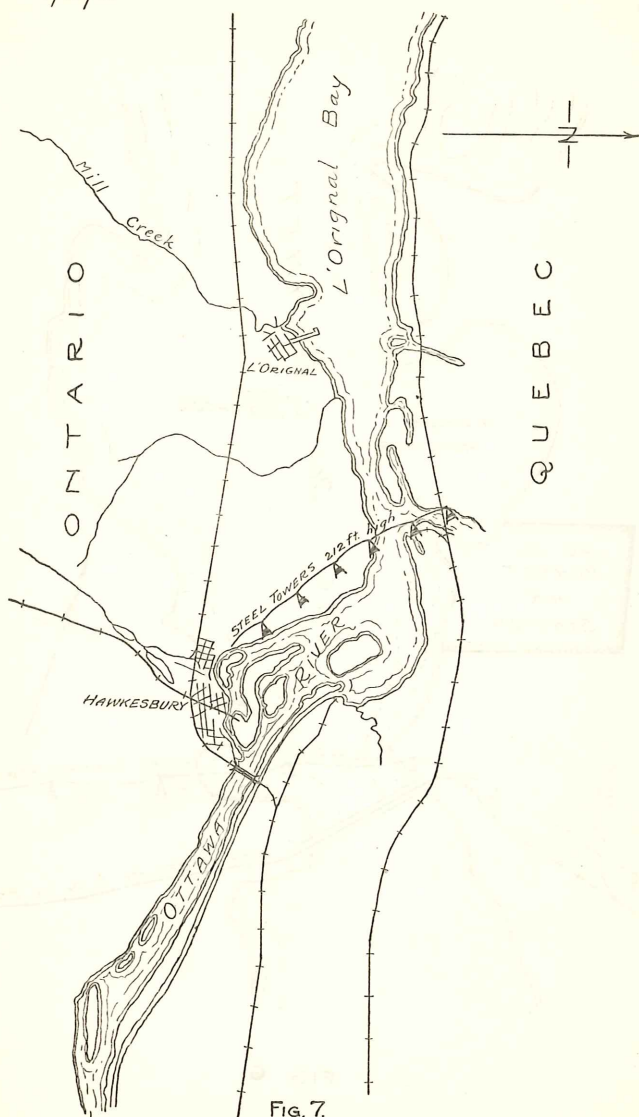


FIG. 7.

O/17/31

3/11/31

### UNLICENSED AIRHARBOURS VICTORIA, B.C.

In accordance with Air Regulations, 1938, Part III, paragraph 1:—  
"No area of land or water shall be used as an airport unless it has been licensed as herein provided."

Pilots and operators are hereby notified that the use of the Inner Harbour, Victoria, B.C., by seaplanes is strictly forbidden.

O/19/31

19/11/31

### FATAL ACCIDENTS—REMOVAL OF WRECKAGE

The attention of all pilots and operators is drawn to the Coroners Act (Ontario) as amended by 21 Geo. V., Chapter 31, Section 7. This Act provides that where a death occurs in the wreck of an aeroplane, no person without the authority of the Coroner shall interfere or destroy any wreckage, and if they do so, a penalty may be imposed of a fine of not less than \$25 or more than \$100.

Air Regulations, 1938, Part VIII, paragraph 20, states as follows:—

"No aircraft involved in any accident causing death or injury to any person shall be removed or otherwise interfered with without permission from the Minister of Transport.

Provided, however, that the aircraft or any part thereof may be displaced or removed as may be necessary to extricate persons, to remove mails, to prevent destruction by fire or other cause, or to avoid danger to persons or property."

In so far as the Province of Ontario is concerned, therefore, authority must be obtained for the removal of wreckage both from the local Coroner and from the Minister of Transport.

O/20/31

27/11/31

### REVOLVING BEACON—LONDON, ONT.

All Pilots and Operators are hereby notified that the thirty-six-inch revolving electric beacon, located on the top of the Huron and Erie Mortgage Corporation's building, London, Ontario, will be operated only from 1900 hours to 2200 hours each day, Sundays excluded, until further notice.

O/22/31

11/12/31

### FISH AND GAME LAWS PROVINCE OF QUEBEC

It is the desire of the Department of Transport that all commercial pilots and operators should prevent, as far as lies in their power, any infraction of the game laws and regulations in force in the Province of Quebec. In particular, it has been drawn to the attention of the Department that there is danger of an influx of white trappers into the region

lying to the east of James Bay and pilots operating in that vicinity should ensure, when asked to take trappers or hunting parties into that district, that the game laws and regulations are being complied with.

It should be noted that only Indians are allowed to hunt beaver and that no one is allowed to buy, sell or trade in furs without a licence to that effect from the Department of Colonization, Game and Fisheries, Province of Quebec. The fee is \$100 for residents of Quebec who are British subjects and \$200 for British subjects not domiciled in Quebec.

Any infraction against this section of the game laws involves the confiscation of the furs besides the payment of the fines provided by the law.

O/23/31

11/12/31

SEAPLANE ANCHORAGE, NAMU, B.C.

Location—51° 52' North, 127° 56' West, located 4 miles south of mouth of Burke Channel on Fitzhugh Sound. Half way between Prince Rupert and Vancouver, B.C.

Prominent Landmarks—Namu Cannery. At night electric lights, also search light from Fish elevator.

Size—Ample.

Shelter—Good.

Character of bottom—Muddy.

Gasolene and Oil—Imperial Oil Station.

Refuelling facilities—Good.

Small boats—Available.

Beach suitable for hauling out.

Communications—Telephone, Telegram and Radio.

1932

O/1/32

11/1/32

FISH AND GAME LAWS  
PROVINCE OF ONTARIO

It is the desire of the Department of Transport that all commercial pilots and operators should prevent, as far as lies in their power, any infraction of the Game Laws and Regulations in force in the Province of Ontario. In particular, it has been drawn to the attention of the Department that there is danger of an influx of white trappers into the region lying to the west of James Bay, and pilots operating in that vicinity should ensure, when asked to take trappers or hunting parties into that district, that the Game Laws and Regulations are being complied with.

It should be noted that only Indians are allowed to hunt beaver and otter, and that no one is allowed to buy, sell or trade in furs without a licence from the Department of Game and Fisheries, Province of Ontario, fees for which are as follows:—

For a resident British subject on specific premises to be known as "Store Licence".....	\$ 25
For a resident British subject where premises are not designated, to be known as "Travelling Fur Buyer"..	100
For a resident of the Province who is not a British subject, and for a non-resident.....	200
For a resident British subject on specified premises, to be known as "Wholesale Licence".....	100



The Game and Fishery Laws of the Province of Ontario provide that trapping in the Province may be carried on only by residents of Ontario and further, the use of poison in connection with trapping operations is prohibited.

Any infraction of these provisions of the Game Laws involves a confiscation of the furs besides the payment of fines as provided by the law.

O/2/32

2/2/32

### **CERTIFICATES OF REGISTRATION VALIDITY OF**

"Except aircraft flown only for the purpose of experiment or test within three miles of an airharbour.....no aircraft shall fly unless it has been registered as herein provided." Air Regulations, Part II.

"Certificates of Registration shall not remain valid unless endorsed by the Minister of Transport at intervals not exceeding twelve calendar months." Air Regulations, Section I, paragraph 1.

"Any Certificate of Registration of an aircraft may be suspended or cancelled at any time . . . for cause." Air Regulations, 1938, Part II, Section I, paragraph 9.

The attention of the owners of all registered aircraft is drawn to the above extracts from Air Regulations, and they are warned that the operation of aircraft after the Certificates of Registration have lapsed is contrary to law.

Civil Aviation Inspectors are being instructed to see that the Regulations in respect of Certificates for aircraft as well as for the crews thereof are kept valid.

O/3/32

6/2/32

### **FISH AND GAME LAWS PROVINCE OF QUEBEC**

Further to Information Circular No. O-22/31 of the 11th of December, 1931, the following information is published:—

An Order in Council, dated January 15, 1932, approved by the Lieutenant-Governor of the Province of Quebec on January 16, 1932, establishes all the district of Mistassini, the unorganized portion of the district of Abitibi, the whole of Ashuanipi and all the new Quebec Section as a Fish and Game Preserve where Indians only may carry on hunting of fur-bearing animals.

O/5/32

22/2/32

### **NORTHWEST GAME REGULATIONS AND FUR EXPORT ORDINANCE**

The attention of all pilots and operators is drawn to the Regulations respecting Game in the Northwest Territories and also to an Ordinance respecting the Exportation of Furs from the Northwest Territories. Both the regulations and the ordinance are contained in a pamphlet issued by the Department of Mines and Resources and published by the King's Printer, 1930.

The attention of pilots and operators is particularly drawn to the following extracts:—

- (1) No person excepting a native born Indian or Half-breed leading the life of an Indian, or an Eskimo or Half-breed leading the life of an Eskimo, shall engage in hunting or trapping any game protected under Section 2 of those Regulations without first securing a licence so to do.
- (2) No person shall export, carry or cause to be exported or carried out of the Territories, any furs without first having obtained a permit to do so.
- (3) No person, transportation company, or common carrier shall accept for transportation out of the territories any furs unless the furs or package containing the furs has been stamped or sealed by the Permit Officer as aforesaid.
- (4) Any person who violates any of the provisions of this ordinance shall be guilty of an offence and shall be liable on summary conviction to a fine not exceeding \$1,000 and in default of payment to imprisonment not exceeding six months, or to both fine and imprisonment, together with costs in either case.

Pilots and Operators intending to enter the N. W. Territories are advised to secure copies of the pamphlet containing the Regulations and Ordinance from the Chairman, Department of Mines and Resources, Ottawa, or from the District Agent, Department of Mines and Resources, Fort Smith, Northwest Territories.

O/7/32

15/3/32

### LOG BOOK ENTRIES

Part VIII, paragraph 9, Air Regulations, state that certain documents must be carried on board aircraft in flight and that certain log books must be kept. The operation of aircraft not properly licensed or with Certificates of Registration and Airworthiness which have lapsed will not be permitted.

Renewals of Certificates of Airworthiness can only be made when Inspectors who are examining the aircraft for airworthiness have complete knowledge of the engineering history of the aircraft. This knowledge can be most readily obtained from the information contained in the Aircraft and Engine Log Books. It is important, therefore, that all log books be kept in strict conformity with Air Regulations.

Where obviously there have been major repairs to aircraft or engines and the log books do not contain any entries covering such repairs, Inspectors will be fully justified in viewing the matter with suspicion and in refusing to renew or recommend for renewal the Certificates of Airworthiness.

The keeping of proper records is considered of such importance that the Department issues free of charge with each new commercial registration a combined Journey and Aircraft Log Book and also an Engine Log Book. There is, therefore, no apparent reason why the operators should not be able to comply fully with the requirements of the Air Regulations in the matter of log books.

O/19/32

25/8/32

### PROHIBITED AREAS—PENITENTIARIES

Pilots and operators of aircraft are hereby warned to avoid flying over or near any penitentiary or other like institution. In future, any aircraft observed intentionally flying over such institutions, for any purpose whatever, will be considered to have committed an infringement of Part VIII, paragraph 3, Air Regulations, 1938.

O/21/32

20/9/32

### LANDING SKI PLANES ON UNBROKEN SNOW

The attention of all pilots is again drawn to Information Circular No. 57-A-29, dated the 5th of October.

This circular deals with the precautions which should be taken by pilots landing seaplanes under glassy water conditions. It has been brought to the attention of this Department that a very similar danger exists when landing ski planes on snow under certain light and weather conditions. It has been found practically impossible under certain conditions of surface and light to judge the height of a ski plane when landing and the procedure as recommended for glassy water landing should be adopted for unbroken snow landings.

Pilots are advised to practise continually the methods of landing outlined in Information Circular No. 57-A/29 so that, in the event of a landing having to be made under conditions which are difficult on account of the surface of the snow or water being ill defined, there would be no lack of confidence on the part of the pilot.

O/22/32

20/9/32

### COMMERCIAL REVOLVING BEACON—TORONTO

Location: Corner Davenport and Spadina Roads, Toronto.

Latitude: 43° 40' 38" North.

Longitude: 79° 24' 32" West.

Pilots are warned that a twenty-four-inch revolving electric beacon, revolving at two and one-half r.p.m., has been erected at the above location for advertising purposes only.

As there is no lighted airport in Toronto, the customary twenty-four-inch fixed directional projector, pointing a high intensity pencil of light to the nearest airport, is not included in this installation.

O/28/32

12/12/32

### DANGEROUS OBSTRUCTION

#### BUCKINGHAM JUNCTION, OTTAWA RIVER

It is hereby notified that a dangerous obstruction is formed by a high tension power line across the Ottawa River 2 miles south of Buckingham Junction.

Steel towers 210 feet high have been erected at this point to carry the high-tension cables over the river. The top of the tower on the Ontario side of the river is 294 feet above the water and on the Quebec side 232 feet. The cable sag is 60 feet above high-water mark.

Pilots flying low in this vicinity are warned of this obstruction.

Position—Lat. 45° 31' 15"

Long. 75° 25' 30"



1933

O/1/33

4/1/33

### TEST FLIGHT—AIRCRAFT

Subsequent aircraft of a type which has already been passed as airworthy by the Department of Transport will only be accepted for the issue of airworthiness certificates when the following flight tests have been made:—

- (a) For aircraft of normal category, the flight tests must comprise the following:—
  - (1) A flight including the take off and landing of about half an hour's duration.
  - (2) During the course of the flight it must be ascertained that the behaviour of the aircraft in normal flight is satisfactory and that the engine (s), fuel, oil and cooling systems, and the instruments which are required to be fitted are functioning satisfactorily.
  - (3) If wheel brakes are fitted, they must also be tested.
- (b) For aircraft of the acrobatic category, the following additional tests must be made:—

The aircraft must be looped, rolled, dived and spun, if capable of spinning, during the course of the tests enumerated above.

Aircraft registered and passed as airworthy in Canada should, before renewal of certificate of airworthiness, be test flown by the owner or his pilot, with the minimum crew on board and without passengers.

Aircraft of Canadian registry which have incurred damage to the main structure shall also be test flown with the minimum crew and without passengers before again being placed in service.

Details of all test flights are to be recorded in the aircraft and journey log book in all cases.

O/2/33

11/1/33

### MARKINGS OF SEAPLANE PORTS AND ICE AREAS USED IN WINTER MONTHS

In the past it has been customary for aircraft operators to make use of ice areas in the proximity of licensed aerodromes during winter months. Normally, such operations have been carried out without the identification of the safe landing area and without provision of means for determining the wind direction.

Such operations have resulted in serious damage to and loss of aircraft. In future, ice areas from which passengers are regularly carried shall be clearly defined in the following manner:—

#### (a) *Rectangular Areas*

At each of the four corners, a boundary marker of dimensions, material and colours as shown on the accompanying diagram, *Figure 8*.

#### (b) *Irregular Areas*

At each angle of the area a boundary marker of dimensions, material and colours as shown on the accompanying diagram, *Figure 8*.



*(c) Aerodrome Marker*

A Greek Cross constructed of fabric or boards, 12' x 12', shall be so placed on the area selected as to indicate the point where aircraft shall be brought to rest for discharge of cargo or passengers and where refuelling and servicing facilities are to be carried out.

*(d) Wind Indicator*

A wind cone of standard dimensions, colour International Orange or Chrome Yellow and Black, shall be erected adjacent to the area in such a manner as to be clearly visible from the air.

The markers described in (a), (b), (c) and (d) above shall only be set out after the operator has made a careful inspection of the ice and they shall be removed whenever ice conditions become doubtful.

Operators setting out aerodromes on ice will immediately notify the Controller of Civil Aviation of the exact location, in order that the information may be published.

O/7/33

18/2/33

**MARKINGS—ICE LANDING AREAS  
MACKENZIE DISTRICT**

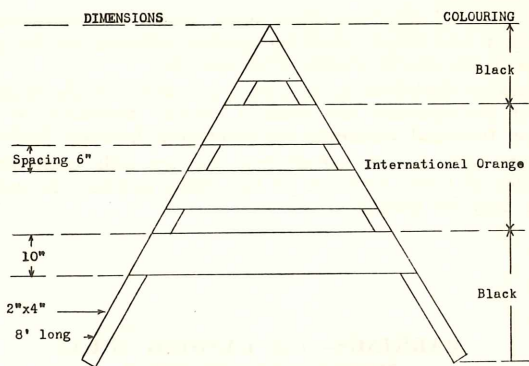
It has been brought to the attention of the Department that it is impractical at many places in the Mackenzie District to provide the marker mentioned in Information Circular O-2/33. Authority is therefore granted to use spruce boughs in this District in lieu of the regular marking.

This amendment applies to the Mackenzie District only, as in other sections of Canada spruce boughs are used to mark ice cutting areas, roads, race tracks, etc., and the approved marker must be used to distinguish landing places from areas so marked for other purposes.

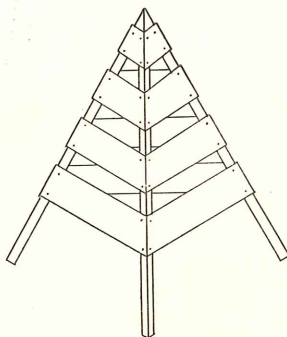
0/2/33

TRIPOD BOUNDARY MARKER FOR ICE AERODROMES

o0o



**Material** - Three supporting members to be 2" x 4" scantlings 8 ft. long or equivalent. The sides to be boards or slabs 10" in width and spaced 6" apart.



**Tripod Marker.**

FIG. 8.

O/9/33

21/2/33

### FORMATION OF ICE ON AIRCRAFT

The serious hazard that exists in the formation of ice on wings, struts and other parts of aircraft should receive the most careful consideration of all who operate aircraft during the winter season. In a recent flying accident this condition was partly or entirely responsible for the pilot losing control and in the case of other accidents of undetermined cause it is very probable that ice formation contributed to some extent, if it was not wholly responsible.

The danger is particularly real because the condition is seldom noticed by the pilot in time to permit of remedial measures or to effect a landing before the aircraft becomes difficult to control. In addition to destroying the efficiency of the aerofoil section of the wing, it often interferes with the working of the pilot tube, blocks the air vent in gasoline tanks or freezes the hinges of control surfaces.

The atmospheric conditions favourable to ice formation on aircraft are high humidity, fog or rain with a temperature at or even considerably below freezing point, (32°F).

Various remedies have been prescribed, some effective, but few, if any, practicable. A sure method is to avoid the conditions under which ice forms. To know with certainty when the temperature is in the danger zone a reliable thermometer must be provided. This should be of such size and pattern that it can be read at 20 feet. To avoid danger an ample margin of safety must be kept so that the aircraft can be safely landed before the ice has so accumulated that control is impaired.

It would be preferable to abandon flight before taking off if a dangerous condition exists and the pilot has no definite knowledge of its probable extent. To guard against flying at any altitude where a dangerous temperature is found to exist, it is strongly recommended that a suitable thermometer be fitted outside the fuselage of all aircraft likely to encounter the conditions described above.

O/11/33

24/2/33

### RATES AND CHARGES—VANCOUVER AIRPORT

The following schedule of rates and charges adopted by the Vancouver City Council for Vancouver Airport and Seaplane Harbour has been approved:

#### *Storage of Aircraft in Hangars*

The monthly charges for storage of aircraft in hangars shall be as follows:—

#### *Commercial Aircraft*

- (a) Aircraft with a wingspan of 20 feet or less, or with wings which fold to less than 20 feet—\$20 per month.
- (b) Wingspan up to and including 80 feet—\$1 per foot per month.
- (c) Wingspan over 80 feet and including 100 feet—\$80 plus \$1.50 per foot over 80 feet per month.
- (d) One day storage in hangars  $\frac{1}{20}$ th of the regular monthly rate.

- (e) Field Storage, if no hangar space is available— $\frac{1}{2}$  of monthly or daily charges.  
 (f) An exception to be made in the case of extra light monoplanes of the powered glider type—\$20 per month.

#### *Privately Operated Aircraft*

- (a) Aircraft privately owned and not operated commercially, up to 35 feet wingspan—\$15 per month.  
 (b) Aircraft with wings which fold to less than 20 feet—\$10 per month. (Above two classes subject to demand on space by Commercial aircraft).

NOTE.—Monthly rents and other charges must be paid before the 7th of the month following, otherwise action will be taken to protect the city.

### COMMERCIAL OPERATIONS

Aircraft based at the Airport or Seaplane Harbour and engaged in any Commercial operations shall pay the following charges:—

Capacity of Aircraft per passenger—

1 Passenger.. . . .	\$ 6 per month
2 Passengers.. . . .	9 "
3 Passengers.. . . .	12 "
4 Passengers.. . . .	16 "
5 or 6 Passengers.. . . .	20 "
7 or 8 Passengers.. . . .	28 "
9 or over.. . . .	36 "

(The above charges shall also apply to Schools of Instruction and Clubs).

Aircraft not operated daily but only on occasional days shall be charged one-tenth of the monthly rate for every day upon which they operate from the Airport or Seaplane Harbour, but the monthly rate shall be the maximum charge.

Aircraft not operated commercially during the calendar month shall be exempt from the above commercial operating charges.

*Commercial Aircraft not based here.*—and engaged in any commercial operations to or from this Airport or Seaplane Harbour, shall pay the above rates plus 50 per cent, in advance.

### TRANSPORT AIRCRAFT

No landing fee shall be charged visiting aircraft, except in the case of agents demonstrating aircraft for sale, when a charge of 50 cents per landing or \$2 per day shall be imposed.

If visiting aircraft are placed in hangars, the regular hangar rents shall apply, but field storage up to 12 hours will be allowed free.

NOTE.—No aircraft shall be allowed to leave the Airport or Seaplane Harbour until all charges then owing have been paid.

### OFFICES FOR RENT

In Administration Building, including light and heat...\$12 per month

In Hangars, including light.. . . . 8 "

**LOCKERS**—50 cents per month.

(If paid in advance, no rebates)—\$5 per year



O/14/33

20/3/33

### **DANGEROUS FLYING—POOR VISIBILITY**

Two serious accidents, as well as a number of minor ones, have occurred recently due to the pilot carrying on into falling snow or other conditions of low visibility in the hope that he would find clear weather at his destination.

This is considered dangerous and it is strongly recommended that pilots refrain from entering areas of poor visibility unless they have definite knowledge that at their destination the weather is such that a safe landing can be made.

O/18/33

20/4/33

### **OVERLOADING OF AIRCRAFT**

Numerous complaints have come to this Department's notice that aircraft operators are exceeding the total weight authorized by Certificates of Airworthiness and carrying more passengers than is permitted. All concerned are cautioned that such practice is considered highly dangerous and are requested to keep the load of passengers or freight within the limits prescribed in the Certificate of Airworthiness for each aircraft.

When any operator is uncertain as to the load he is permitted to carry in his aircraft, application should be made to the local Inspector of Civil Aviation for information. Where it is desired to operate with reduced quantities of fuel and oil, information should be sought from this Department's Inspectors as to the permissible minimum.

O/23/33

27/5/33

### **CIVIL USE OF R. C. A. F. AIR STATIONS— RATES AND CHARGES**

Civil Aircraft will be allowed to make use of all Royal Canadian Air Force Air Stations and their facilities when the exigencies of the service permit, provided there is no corresponding public airport in the vicinity.

Accommodation for Civil Aircraft Operators may be provided subject to the availability of accommodation and the discretion of the Officer Commanding the Station.

Tables of charges for accommodation of aircraft, services of mechanics and rates for civilian accommodation are as follows:—

# DIRECTORATE OF CIVIL GOVERNMENT AIR OPERATIONS AIRPORT RATES

TABLE "A"

COMMERCIAL AND PRIVATE AIRCRAFT—(LANDPLANES AND SEAPLANES)

	Aircraft		
	Light	Medium	Heavy
	Weight up to 3,000 lbs.	Weight 3,000 lbs. to 6,000	Weight over 6,000 lbs.
<i>Ground Storage Fees*</i> —			
Including landing privileges—			
per aircraft per day.....	\$ 1.00	\$ 2.00	\$ 3.00
per aircraft per month.....	20.00	25.00	30.00
<i>Fees for use of Mooring or Beach Space—</i>			
Including landing privileges—			
per aircraft per day.....	1 50	2 50	3 50
per aircraft per month.....	30.00	35.00	40.00
<i>Unheated Hangar Accommodation—</i>			
Including landing privileges—			
per aircraft per day.....	2.00	3.00	4.00
per aircraft per month.....	30.00	45.00	60.00
(These fees are subject to a discount of 20% if aircraft is folded).			
<i>Heated Hangar Accommodation—</i>			
Including landing privileges, (Unheated rates will apply in all cases between April 1st and October 31st.)—			
per aircraft per day.....	3.00	4.00	5.00
per aircraft per month.....	40.00	60.00	75.00
(These fees are subject to a discount of 20% if aircraft is folded).			
<i>Privately Owned Hangars—</i>			
When operator provides own hangar accommodation, fees per aircraft per month.....	15.00	22.50	30.00
<i>Hauling out and Launching Fees—</i>			
Supplementary to fees shown above, hauling out or launching per aircraft.....	.75	1.00	2.00
<i>Amphibious Aircraft—</i>			
Supplementary to fees shown above, when man handling not required, use of slipway incoming or outgoing.....	.25	.50	.75
<i>Passenger Toll—</i>			
For each passenger carried for hire except passenger in transit.....	.10	.10	.10

\*These fees include the supply of all available information as to routes and weather conditions and the services of Air Force personnel if available, to assist in securing the aircraft and refuelling. Reasonable boat transport between aircraft at moorings and shore, is allowed without additional charge.

TABLE "B"  
MOTOR TRANSPORT CHARGES  
(Including services of a Driver)

Type	Rate per mile	Rate per hour
Light passenger car.....	\$ .25	\$ 5.00
Light Truck, 1 ton.....	.35	6.00
Heavy Truck up to 3 tons.....	.50	8.00
Tractor.....	.....	6.00

MOTOR BOAT CHARGES  
(Including services of a Crew)

Type	Rate per $\frac{1}{2}$ hour or part thereof	Rate per hour
Boat fitted with Outboard Motor.....	\$ 1.00	\$ 1.75
Boat with engine up to 25 H.P.....	1.50	2.75
Boat with engine 25 to 50 H.P.....	2.50	4.50
Boat with engine 50 to 100 H.P.....	4.50	8.50

TABLE "C"  
CHARGES FOR SERVICES OF MECHANICS

The services of mechanics rendered to aircraft alighting at a station are to be charged for in accordance with the following scale:—

Rank	Rate per hour
Sergeant Major, Class 1.....	\$ 1.50
Sergeant Major, Class 2.....	
Flight Sergeant.....	
Sergeant.....	
Corporal.....	\$ 1.00
Aircraftsman.....	

TABLE "D"  
CIVILIAN ACCOMMODATION

	Rates			
	Messing per Day	Service Charges per Day	Quarters per Day	Quarters per Week
	*	†	†	†
When accommodated in an Officers' Mess and Quarters.....	\$ 1.70	.30	1.00	5.00
When accommodated in an Airmen's Mess and Quarters.....	1.00	.25	.75	4.00

\*Messing Charges payable to Station Mess.

†Service and Quarters Charges payable to Receiver General.

O/27/33

9/6/33

### DANGEROUS OBSTRUCTION LITTLE LONG LAC

A telephone wire, approximately 1,000 feet long in one span, and at its lowest point, about 40 feet above the water, is installed across the northwest arm of Kenogamisis Lake, connecting with Little Long Lac Mine, Latitude  $49^{\circ} 41'$ , Longitude  $86^{\circ} 57'$ . See sketch map *Figure No. 9*.

Pilots operating in this vicinity should exercise extreme caution.

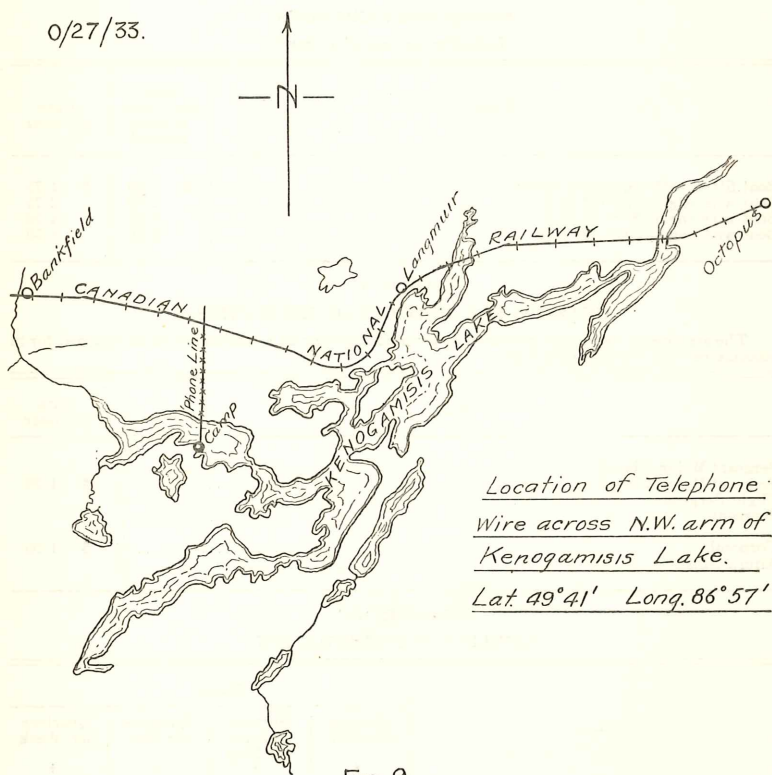


FIG. 9.



O/30/33

23/6/33

### **PROHIBITED LANDING AREA PASCALIS, QUE.**

It has been learned that pilots are using a small pond adjoining Pascalis townsite for landing and taking off seaplanes carrying passengers, and that the dimensions of this pond are such that an undue hazard is created.

As the responsibility for choosing a safe area for landing or taking off rests entirely on the pilot of the aircraft, all concerned are cautioned to use only areas of a size sufficient to provide an ample margin of safety.

Landing on, or take offs from, the pond above mentioned is hereby prohibited for any seaplane carrying passengers.

O/33/33

11/7/33

### **SAFETY IN FLYING**

The prominence given in the press recently to certain unfortunate flying accidents has unduly emphasized and exaggerated the hazards and dangers of travel by air. All accidents resulting in damage to aircraft requiring more than running repairs must by law be reported to the department and, in addition, all accidents involving casualties to personnel are investigated by Boards of Inquiry set up under authority of the Minister of Transport. As a result an analysis of flying accidents is possible and is, in fact, made annually.

Two things are evident from this analysis. First, that in proportion to the miles flown in regular air transport the number of fatalities is small and this number is steadily decreasing and, secondly, that in the vast majority of cases accidents are due to errors in judgment or poor technic on the part of the pilots. Most of them are directly attributable to lack of flying discipline, overconfidence and carelessness in flying and, too frequently, to breaches of Air Regulations.

When any lesson is to be learnt from a flying accident, the department circularizes the information and suggests, and, if appropriate, orders remedial measures.

It cannot be impressed too strongly on pilots and aircraft operators that Air Regulations are framed for their protection as well as for the safety of passengers and that strict compliance with the Regulations is not only required by law but also by the dictates of good practice and common sense.

O/37/33

19/9/33

### **AIRPORT AND SEAPLANE BASE—FAIRCHILD AIRCRAFT, LIMITED, LONGUEUIL, QUE.**

Latitude 45° 33' 39" North, Longitude, 73° 29' 44" West. See amended sketch to include information regarding facilities for both land planes and seaplanes, *Figure No. 10*.

Pilots arriving for the first time are advised to study carefully, from the air, the general lay-out of the airport or seaplane base, and, in particular, the location of the deep water channels marked by red buoys as illustrated in the sketch, *Figure No. 10*.

9/37/33

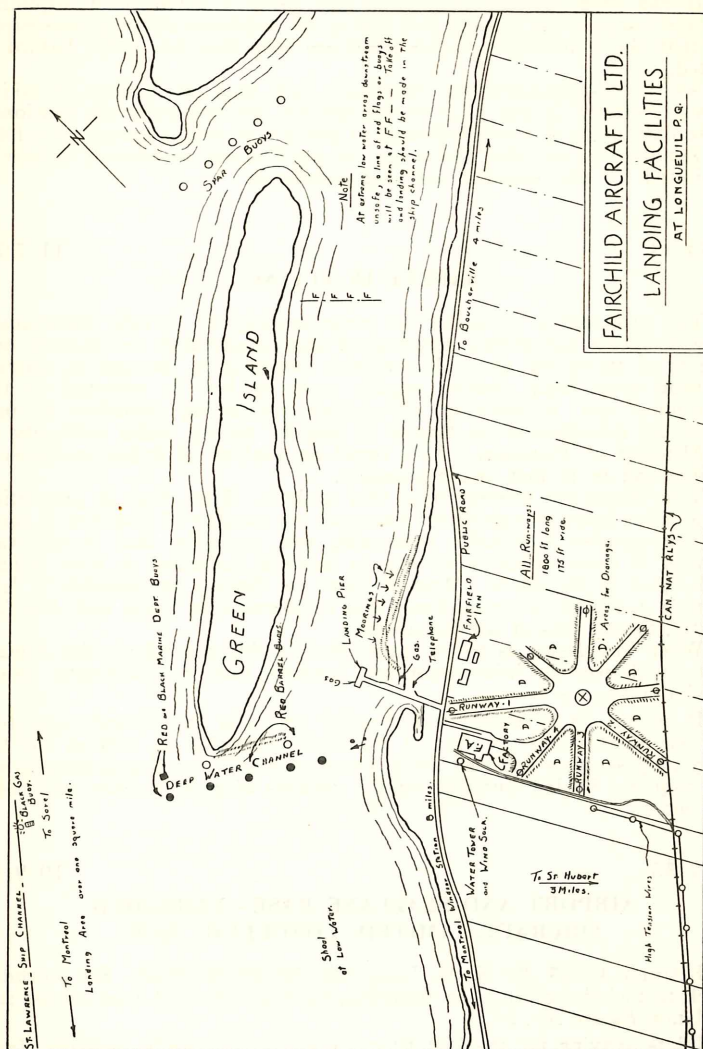


FIG. 10.

Take offs, landing and taxiing must be carried out in the deep water channels in order to avoid hazards.

Particular interest is directed to the following:—

*Seaplane Base*

Two red and black dome-shaped Department of Marine buoys mark the approach of the channel.

*Airport*

The landing area consists of four intersecting runways *only*, the rough areas between are unfit for use and are hazardous.

During the spring thaw the airport is generally unfit for aircraft, due to soft ground, for a period of a week or 10 days. During this period pilots should secure advance information as to conditions.

O/39/33

18/10/33

**AUTOGYRO PILOTS FLYING  
CONVENTIONAL AIRCRAFT**

An accident recently occurred whereby a pilot, who had been doing considerable flying in an autogyro, crashed in a conventional type aircraft through stalling while effecting a gliding turn at a low altitude. A contributing cause appeared to be that the pilot, by reason of his recent autogyro experience, did not recognize the danger of stalling in time to prevent it. All pilots of autogyro type of aircraft are warned to use the utmost caution when flying other types and if possible to obtain sufficient practice to remain familiar with the control characteristics of both types.

O/40/33

18/10/33

**ACROBATICS IN AMATEUR BUILT AIRCRAFT**

A pilot of an aircraft of amateur construction lost his life recently through imposing abnormal stresses on the aircraft when stunting.

As aircraft of this description are seldom built of material or to a design fit for violent manoeuvres, all concerned are warned that trick flying of any description in such aircraft is exceedingly dangerous and should not be attempted in any aircraft not having been issued a Certificate of Airworthiness by this department.

It is also recommended that parachutes always be worn by pilots indulging in acrobatic flying in any type of aircraft, whether passed as air-worthy by the Department of Transport or not.

O/42/33

30/10/33

**CERTIFICATES AND LICENCES**

Part IV, paragraph 1, Air Regulations, states:—

“(1) No person shall act—

- (i) as pilot of any aircraft, or
- (ii) as engineer or inspector of any commercial aircraft, or
- (iii) as pilot, engineer or inspector of any aircraft registered in Canada when flying outside Canada, or
- (iv) as airport traffic control officer unless such person holds a certificate issued by the Minister authorizing him so to act.”



Part VIII, paragraph 18, states:—

“Failure to observe or comply with the conditions upon which any certificate or licence is issued shall be deemed to be a breach of these regulations.”

The attention of all connected with aviation is drawn to these two paragraphs at this time owing to what appears to be a growing tendency on the part of pilots to ignore the regulations requiring that personnel engaged in flying operations must be fully licensed for the work they undertake. It should also be noted that if any aircraft flies in breach of the regulations the owner of the aircraft, as well as the pilot thereof, and any other member of the crew who has been a party of the breach, shall be liable therefor. It, therefore, becomes incumbent upon the owners of aircraft to see that they are only flown by personnel holding valid licences.

The regulations further require that persons holding certificates shall produce them on demand by any peace officer or any officer of customs or immigration or any officer or other person authorized by the Minister. An inspection of a licence will show immediately whether or not it is valid, so the owners of aircraft should have no difficulty in knowing whether or not the conditions imposed by Air Regulations are being complied with at all times by their pilots and other licensed personnel.

O/43/33

6/11/33

#### PAY LOAD

Certificates of Airworthiness state the weight light of an aircraft and also the total authorized all up weight. These certificates also state the number of passengers which may be carried.

The attention of all operators is drawn to the following paragraph which is printed on the Certificate of Registration and Airworthiness:—

“This Certificate is subject to Air Regulations, 1938, and will be voided by any unauthorized change in the design or equipment of the aircraft or by any breach of the conditions herein expressed.”

It is evident, therefore, that the carrying of loads which, combined with the weight of the aircraft light, the weight of the pilot and the weight of the gasoline and oil, amount to more than the total authorized all up weight is directly contrary to Air Regulations. Furthermore, such overloading of aircraft is a highly dangerous practice and in the long run will prove unprofitable.

The Department has warned aircraft operators against exceeding the total weight authorized by Certificates of Airworthiness in the past and wishes at this time to emphasize that offences against Air Regulations cannot be condoned.

O/44/33

20/11/33

#### DANGEROUS OBSTRUCTION—ANGUS, ONT.

Pilots are warned that a steel water tower and lookout 105 ft. high has been erected at Angus, Ontario, approximately  $2\frac{1}{2}$  miles N.E. of the Royal Canadian Air Force aerodrome at Camp Borden.



O/45/33

4/12/33

### STARTING ENGINES SAFETY PRECAUTIONS

The attention of all pilots, instructors, aerodrome managers and aircraft owners is drawn to the need of taking every precaution to avoid accident when starting up aeroplane engines. Particular care should be taken to ensure that the aeroplane is prevented from moving ahead. An aeroplane engine should only be started up after wheel chocks have been placed and competent persons are in charge of the throttle lever and airscrew or starter handle. Spectators should be warned of the danger and asked to keep well clear. Aircraft should never be left unattended while the engine is running.

These precautions are most essential where inexperienced pilots on cross country flights are obliged to start up their engines. An accident recently occurred in which the passenger attempted to assist in holding an aeroplane which had been started up without anyone at the throttle. The passenger was thrown down and received fatal injuries.

Instructors and managers should ensure that inexperienced pilots are aware of what steps are necessary in the case of a landing and restarting of engines before they are permitted to fly beyond the vicinity of the aerodrome. When necessary to seek assistance from bystanders, no person unfamiliar with aeroplanes should be asked to place himself in any danger, such as to swing an airscrew or remove wheel chocks. Rather instruct him how to handle the throttle *from outside the aeroplane* and leave any duties of a dangerous nature to the pilot.

This Department does not wish to lay down rules as to how engines should be started up, as the above-mentioned matters should be obvious, but nothing should be left to chance where an omission might have fatal results.

O/46/33

22/12/33

### VICTORIA B.C., MUNICIPAL AIRPORT- LICENCE CANCELLED

Latitude 48° 27" N. 123° W. The temporary licence on this airport has been cancelled and the city of Victoria is taking immediate steps to replace all cross fences.

In future it will not be possible for aircraft to land on this field.

O/7/34

16/3/34

**OFFICIAL SCHEDULE OF RATES AND CONDITIONS  
DEPARTMENT OF TRANSPORT AIRPORTS  
AND SEAPLANE BASES**

The following official schedule of rates and conditions for Department of Transport Airports and Seaplane Bases is published for the information of all concerned.

These rates will come into force as from 1st April, 1934, and cancel all previous rates.

**MISCELLANEOUS STORAGE RATES**

<i>Storage in Buildings</i>		<i>Outside Storage</i>	
Day	2c. per 10 sq. ft.	1c. per 10 sq. ft.	
Week	12c. " "	6c. " "	
Month	40c. " "	20c. " "	

Minimum rentable space—10 sq. ft.

Minimum charge—25c.

**HAULING OUT OR LAUNCHING FEES.**—Fees for hauling out or launching of seaplanes are to be charged at the following rates:—

<i>Wing Span</i>	<i>Fee</i>
30' or less	\$0.75
30' to 45'	1.00
45' to 60'	1.50
60' or more	2.00

NOTE: Amphibian aircraft may be permitted to taxi out under their own power at the discretion of the airport authority. In that case the above fees are subject to a discount of 50 per cent.

**LANDING FEE.**—When other accommodation as above is not purchased, a landing fee of \$1 will be charged.

**PASSENGER TOLL.**—For each passenger carried for hire, *except passengers in transit*, 10c.

**LOCKER RENTAL FEE.**—When available, lockers may be rented at the rate of twenty-five (25c.) cents per month or part thereof.

**SPECIAL CLUB RATES.**—Monthly fees per aircraft in use by Clubs, when club provides own hangar accommodation, \$15 per month.

**DEAD STORAGE RATES.**—A reduction of 25 per cent will be allowed for aeroplanes placed in Dead Storage for two months or more.

A reduction of 40 per cent will be allowed for aeroplanes stored, with wings folded, or knocked down, for a period of two months or more.

**APPLICATION OF RATES.**—Aircraft housed for 24 hours or more, hangar rates shall be computed from 8.00 p.m. of the day of arrival during the period 1st April to 31st October, and 6.00 p.m. during the period 1st November to 31st March. Aircraft housed for less than 24 hours shall be charged hangar rates for one day.

Rates shall apply as follows:—  
 For period up to 6 days at daily rates.  
 “ “ “ 20 “ weekly “  
 “ “ over 20 “ monthly “

*PAYMENT OF FEES.*—All fees for aircraft in transit must be paid in cash before aircraft leaves the airport.

All fees for aircraft, other than transients, stored at weekly or monthly rates shall be paid not later than three days following the termination of the weekly period or five days following the termination of the monthly period respectively, except in case when special arrangements have been made.

The Manager of the Airport may at his discretion insist on payment of fees before aircraft is allowed to leave.

*EXEMPTIONS.*—No landing fee or charge for outside accommodation shall be made for:—

- (a) Visiting aircraft owned and operated by authorized Canadian Flying Clubs.
- (b) Visits of aircraft of the Provincial Air Services with which the department has a reciprocal agreement.
- (c) Aeroplanes on government business.
- (d) Official visiting aircraft of the United States Army, Navy, Marine and Department of Commerce.
- (e) When a landing is made under instruction of an inspector of the department.
- (f) The regulation rates shall apply to all other aircraft unless especially exempted by the Minister of Transport.

### *SERVICE CHARGES*

Accommodation charges include the assistance of airport employees available in moving aircraft in and out of hangars, securing and mooring aircraft. Reasonable boat transport between aircraft at moorings and shore is allowed without additional charge. Storage does not include use of shop, tools, or mechanic's time and all service rendered other than the assistance above referred to will be charged for at rates stated below.

Mechanician services, per hour \$1.50 from 8 to 17 hours.

Mechanician helper, per hour \$1 from 8 to 17 hours.

Tractor Service: \$4 per hour.

Night Service: (from 22 hours to 7 hours) \$1 per hour per man required.

A charge of \$2 per hour, or fraction thereof, will be made for the use of field lights for night landings, departures or tests.

### *CONDITIONS*

All aircraft must be registered at the office of the Aerodrome Superintendent immediately upon arrival and be checked out before departure.

Aircraft entering upon and departing from aerodrome belonging to, and use of the landing field and hangar space and taking advantage of privileges and services provided by the Department of Transport, is at the sole risk of persons and owners of aircraft and all other property, so making use of such aerodromes and services and facilities and by so using

same such persons and owners acknowledge said risk and agree to free and relieve His Majesty the King and any of his officers, servants, agents or employees of and from all claims and demands, action and causes of action whatsoever, arising out of or in any way directly or indirectly attributable to said entry, departure, use and taking advantages of said privileges and services.

# OUTSIDE ACCOMMODATION INCLUDING LANDING FEES

Wing Span	Mooring Rates			Ground Space—Wharfage or Beach Space Rates		
	Daily	Weekly	Monthly	Daily	Weekly	Monthly
30' or less.....	\$ 1.25	\$ 7.50	\$ 25.00	\$ 1.00	\$ 6.00	\$ 20.00
30' to 35'.....	1.50	9.00	30.00	1.00	6.00	20.00
35' to 40'.....	1.75	10.50	35.00	1.25	7.50	25.00
40' to 45'.....	2.00	12.00	40.00	1.50	9.00	30.00
45' to 50'.....	2.50	15.00	50.00	1.75	10.50	35.00
50' to 55'.....	3.00	18.00	60.00	2.00	12.00	40.00
55' to 65'.....	3.50	21.00	70.00	2.25	13.50	45.00
65' and up.....	4.00	24.00	80.00	3.00	18.00	60.00



# INSIDE ACCOMMODATION INCLUDING LANDING FEES

Wing Span	DAILY RATE						WEEKLY RATE						MONTHLY RATE					
	High Wing Monoplanes			Other Types			High Wing Monoplanes			Other Types			High Wing Monoplanes			Other Types		
	April 1 to Oct. 31	Nov. 1 to March 31		April 1 to Oct. 31	Nov. 1 to March 31		April 1 to Oct. 31	Nov. 1 to March 31		April 1 to Oct. 31	Nov. 1 to March 31		April 1 to Oct. 31	Nov. 1 to March 31		April 1 to Oct. 31	Nov. 1 to March 31	
	\$	\$		\$	\$		\$	\$		\$	\$		\$	\$		\$	\$	
30' or less.....	1.25	1.50		1.75	2.00		7.50	9.00		10.50	12.00		25.00	30.00		35.00	40.00	
30' 1' to 35'.....	1.75	2.00		2.00	2.50		10.50	12.00		12.00	15.00		35.00	40.00		40.00	50.00	
35' 1' to 40'.....	2.00	2.50		2.50	3.00		12.00	15.00		15.00	18.00		40.00	50.00		50.00	60.00	
40' 1' to 45'.....	2.50	3.00		3.00	3.50		15.00	18.00		18.00	21.00		50.00	60.00		60.00	70.00	
45' 1' to 50'.....	3.00	3.50		3.50	4.00		18.00	21.00		21.00	24.00		60.00	70.00		70.00	80.00	
50' 1' to 55'.....	3.50	4.00		4.00	4.50		21.00	24.00		24.00	27.00		70.00	80.00		80.00	90.00	
55' 1' to 65'.....	4.00	4.50		4.50	5.00		24.00	27.00		27.00	30.00		80.00	90.00		90.00	100.00	
65' 1' or more (single engine)....	5.00	6.00		6.00	7.00		30.00	36.00		36.00	42.00		100.00	120.00		120.00	140.00	
65' 1' or more (multi-engine)....	6.00	7.00		7.00	8.00		36.00	42.00		42.00	48.00		120.00	140.00		140.00	160.00	

NORZ.—Unheated rates will normally apply between 1st April and 31st October. Heated rates will normally apply between 1st November and 31st March when such accommodation is available and used; otherwise unheated rates will apply.

O/11/34

18/4/34

**FAIRCHILD AIRPORT, LONGUEUIL, QUE.  
SEAPLANE PORT RATES**

The following scale of charges at the above mentioned base have been approved:

**FAIRCHILD AIRCRAFT LIMITED—SEAPLANE BASE TARIFF**

Landing fee.. . . . .	\$ 2 00	During working hours, i.e. between 7.45 a.m. and 5.15 p.m. week days, no charge will be made for labour for refuelling or motor boat service for mooring.
Use of Mooring or Ramp for storage, 24 hours or part thereof.. . . . .	2 00	
Special Motor Boat Service, per hour.. . . . .	2 00	If the services of the seaplane base attendant are required after working hours, waiting time will be charged at the rate of \$1 per hour commencing at 5.15 p.m. A similar charge will be made if service is required before 7.45 a.m.
Unskilled Labour, per hour.	1 00	
Air Engineers or Skilled Labour, per hour.. . . .	1 50	

Beaching or Launching when beaching wheels are available.. . . . . 5 00

**FAIRCHILD AIRCRAFT LIMITED** will not be liable for any loss or damage, etc. happening to persons or property while in or about their seaplane base or landing field.

O/14/34

24/4/34

**SAFETY PRECAUTIONS HANDLING AIRCRAFT  
ON THE GROUND**

During the past year there have been two accidents to aircraft with fatal results to third parties due to the neglect of the pilots involved to maintain a proper lookout and to take reasonable precautions in the handling of their aircraft on the ground.

The attention of all pilots is, therefore, directed to the necessity of keeping a proper lookout at all times and to take such precautions as are necessary before starting to taxi and prior to taking off in order to ensure that the field is clear. Should aircraft be so constructed that an unobstructed view forward cannot be obtained, the steering of a zigzag course while taxiing and before taking off is recommended as good practice.

O/18/34

7/5/34

**DUAL CONTROL AIRCRAFT  
GENERAL CONDITIONS FOR OPERATION**

All flying by a pupil while an instructor is in the aircraft must be classed as dual.

Two pupils, unlicensed, are not permitted to fly together in an aircraft fitted with dual control.

Two licensed private pilots may fly a dual control aircraft provided both pilots are licensed for the type of aircraft flown and provided each pilot has more than 25 hours' flying to his credit.

A commercial pilot and a private pilot may fly a dual control aircraft provided both are licensed for the type of aircraft being flown.

Two commercial pilots may fly a dual control aircraft.

If the aircraft is club owned or operated, then pilots permitted to fly dual control aircraft under this ruling may only do so with the specific consent and permission of the club instructor for each and every flight.

Dual flying or flying as safety pilot, or when carrying a safety pilot, shall not be permitted to count towards the hours of solo flying necessary for any licence.

No dual flying by pilots is permitted unless the aircraft is fitted with a system of inter-communication between pilots which is in satisfactory operation and unless a definite understanding exists as to which pilot is in command.

Under no circumstances is flying instruction to be given by commercial pilots unless they are duly authorized for that purpose.

O/24/34

20/6/34

### RATES AND CHARGES, TORONTO HARBOUR

Latitude 43° 38' 45" N., Longitude 79° 22' 0" W. The following scale of charges at the above mentioned airharbour has been approved:

*Mooring Charges*—To buoy or for ground space ashore:—

	<i>Daily</i>	<i>Weekly</i>	<i>Monthly</i>
Light aircraft.....	\$1.25	\$ 7.50	\$25.00
Medium aircraft.....	1.75	10.50	35.00
Heavy aircraft.....	3.00	18.00	60.00

Use of moorings is chargeable for each 24 hours or part thereof. Reasonable use of motor boat and operator is included for service between aircraft moored at buoys and the docks. It also includes such assistance as may be required for aircraft approaching and leaving the docks.

*Special Service Outboard Motor Boat*—

Per half hour, \$1; per hour, \$1.75.

*Use of Crane or Ramp*—for hauling out or launching (wheel gear supplied).

All types of aircraft per diem (or portion thereof).....\$5.00

An exception will be made for aircraft temporarily removed from water to execute repairs if returned to water the same date.

Charge (not including labour).....\$2.00

*Labour*

Air Engineers or skilled labour, per hour.....\$1.50

Unskilled labour, per hour.....1.00

*Passenger Toll*

For each passenger carried for hire, except passengers in transit, there will be a toll of 10 per cent of the fare.



### *Payment of Fees*

All charges for aircraft in transit shall be paid in cash before the aircraft will be allowed to leave the airharbour.

All fees for aircraft stored at weekly or monthly rates shall be paid not later than three days following the termination of the weekly period or five days following the termination of the monthly period, respectively, except in cases where special arrangements have been made.

The manager of the airharbour may, at his discretion, insist on payment of the fees before the aircraft is allowed to leave.

### *Registration*

Arrivals and departures of all aircraft must be registered at the airharbour office.

### *Notice*

The Toronto Airharbour, or the operators thereof, will not be held liable for any loss or damage happening to persons or property while in or about the airharbour, while all reasonable precautions will be taken and experienced personnel will be in attendance night and day.

O/25/34

20/6/34

## **TRANSFER AND SCHEDULE OF CHARGES CARTIERVILLE AIRHARBOUR**

Airharbour licence recently held by the Curtiss-Reid Aircraft Company, Limited, at Cartierville has been transferred to the Montreal Aircraft Industries, Limited.

The following scale of charges has been approved:—

	Light Machines	Medium Machines	Heavy Machines
<i>Alighting and taking off—</i>			
By day—per landing.....	\$ 1.00	\$ 2.00	\$ 3.00
<i>Open air storage—</i>			
(a) Above 2 hours up to 8 hours.....	1.00	2.00	3.00
(b) Above 8 hours for each 24 hours including the first 8 hours.....	1.00	2.00	3.00
(c) Per month.....	15.00	25.00	40.00
<i>Hangar storage—</i>			
(a) Folding wings, unheated per day.....	1.50	3.00	.....
(b) Non-folding wings unheated per day.....	2.00	3.00	.....
(c) Folding wings, unheated per month.....	20.00	60.00	.....
(d) Non-folding, unheated per month.....	30.00	60.00	.....

O/28/34

30/6/34

## **LANDING—MOOSENOSE LAKE, ILFORD, MAN.**

The following information with reference to the landing area as above has been received:—

“Main landing area Moosenose Lake has ample water. East shore near base has good sandy bottom. Certain dangerous rocks near base have been flagged. Pilots unfamiliar with base should lie off shore a safe distance till advised.”



**O/33/34**

**25/7/34**

### **ACROBATIC FLYING**

Advanced flying is useful in the education of the commercial pilot, but dangerous exhibition of poorly executed stunts are detrimental to the progress of aviation and should be eliminated.

The extent to which acrobatics are permitted is clearly defined by the Air Regulations. The attention of all pilots is drawn to these Regulations, particularly to Part VI.

Relief from the provisions of the Air Regulations may be granted under the authority of Part VI, paragraph 2 (b). Any request for relief in the matter of acrobatics for training or for display purposes should be addressed to District Inspectors, Civil Aviation, who are authorized to grant permission within certain limits for acrobatic flying in the vicinity of airharbours.

Such permission must be obtained in writing prior to the event and will be valid only for the pilots and aircraft specified and will be limited as to time and action.

Pilots are responsible that their aircraft and equipment are suitable for acrobatic flying.

Pilots practising acrobatics are advised to wear parachutes and maintain a safe altitude at all times. Practice acrobatic manoeuvres should be completed at a height of at least 1,000 feet above the ground.

**O/36/34**

**9/8/34**

### **SAFETY PRECAUTIONS TO PREVENT INJURY TO PERSONS ON THE GROUND**

The attention of pilots and operators of aircraft is drawn to the responsibility that rests on them to ensure that adequate arrangements are made for proper control of areas which are being used for passenger carrying operations in connection with Fairs, Exhibitions, Summer Resorts and other public gatherings. Accidents where third parties have received injuries have occurred, in every case due to the fact that the public have been allowed to cross the proposed take off runway or the pilot failed to observe the presence of someone in his path.

It is pointed out that operations, particularly from unlicensed areas, are entirely at the discretion and responsibility of the pilot, operator or owner, who must accept the consequences for any damage attributable to lack of proper policing or neglect to take reasonable precaution and keep a proper lookout for danger.

**O/38/34**

**30/8/34**

### **BUOYS AND BEACONS**

The attention of all pilots, aircraft operators, aircraft operating companies and owners and (or) operators of seaplane bases is directed to the following rules.

All buoys placed in waters adjacent to licensed seaplane bases should conform to these rules.

### **RULES GOVERNING BUOYS AND BEACONS ADOPTED UNIFORMLY THROUGHOUT THE DOMINION OF CANADA**

It is expedient in the interest of navigation in the Dominion of Canada that a uniform system of buoys and beacons should be adopted for the harbours and channels: the following rules, based upon the system

adopted by the Washington Marine Conference of 1889, are, therefore, to be observed uniformly throughout the Dominion and no deviations will under any circumstances be permitted.

The term Starboard Hand shall denote that side which would be on the right hand side of the mariner going with the main stream of flood, or in entering a river, harbour, or estuary from seaward, or, in tideless rivers, in going against the stream, or, in lakes, in going from the outlet towards the head of the lake. The term Port Hand shall denote the left hand of the mariner under the same circumstances.

Buoys showing the pointed top of a cone above water shall be called Conical and shall always be starboard hand buoys, as above defined. Buoys showing a flat top above the water shall be called Can; those showing a domed top above water shall be called Spherical; and those showing only a mast above water shall be called Spar buoys.

Buoys having a tall central structure on a broad base shall be called Pillar buoys, and like other special buoys, such as Lighted buoys, Gas buoys, Whistling buoys, etc., shall be placed to mark special positions, which will be fully described when the buoys are placed. With the exception of Conical buoys, which when used shall always be starboard hand buoys, Conical topmarks, which shall always be starboard hand, or Cylindrical topmarks, which shall always be port hand topmarks, as herein mentioned, the shapes of buoys or beacons shall have no special significance at present in Canada.

Starboard hand buoys shall be painted red, and, if numbered, shall be marked with even numbers. Port hand buoys shall be painted black, with odd numbers, if any. Buoys defining middle ground shall be painted with red and black horizontal bands, and may be passed on either hand.

The use of mid-channel or fairway buoys is to be discouraged as even intricate and narrow channels can be properly defined by using Starboard and Port buoys. If used as is occasionally convenient, particularly in the case of special signal buoys, they are to be painted in white and black vertical stripes and may be passed on either hand.

Numbers, letters or names may be painted on the buoys, but they must never be so large as to interfere with their distinctive colouring. Wherever numbers or letters are used they shall be in consecutive order, commencing from seaward.

Where top marks are used on buoys, they shall in no way conflict with the above regulations. Top marks resembling a cone to be used on the Starboard side, and those resembling a cylinder on the Port side of the channel. Any other distinguishing marks of buoys will be used to mark particular spots, a detailed description of which will be given when the mark is first established.

All buoys and the topsides of vessels used for the marking of wrecks shall be painted a green colour with a suitable white inscription and shall be moored when possible near the side of the wreck next to mid-channel. Where it is practicable, by day one ball shall be exposed on the side of the vessel next the wreck and two placed vertically on the other side. Three fixed white lights, similarly arranged, but not the ordinary riding light, should be shown from sunset to sunrise.

The above system of colouring and marking buoys is to be applied also to beacons, spindles, and other day marks, so far as it may be practicable to carry it out.

Starboard hand or red spar buoys are to be pointed as to top; port hand or black buoys are to be sawed square across.

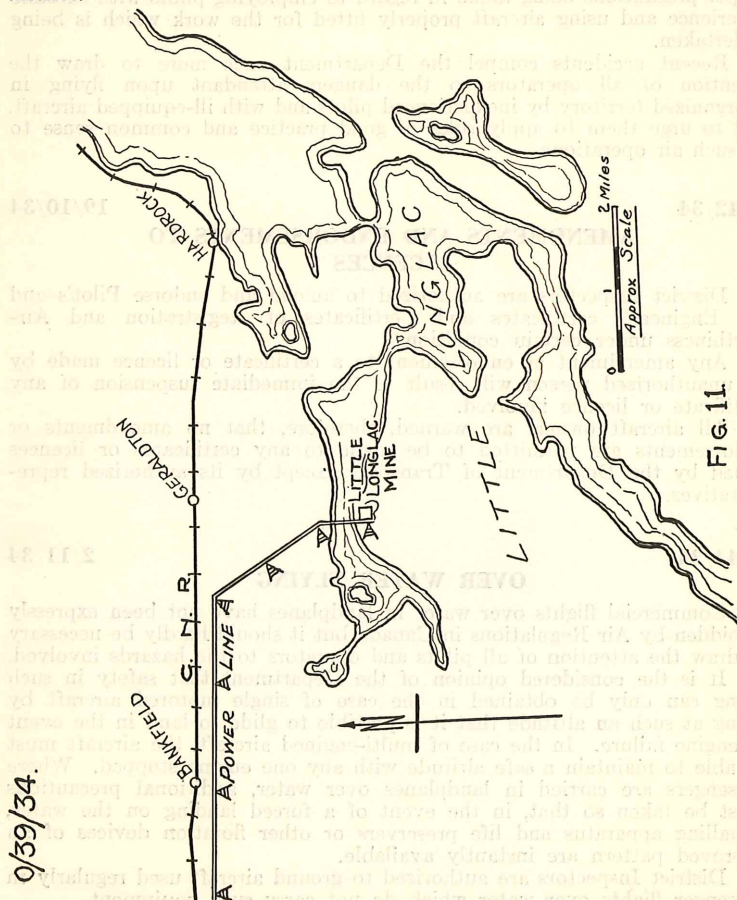


### DANGEROUS OBSTRUCTION LITTLE LONG LAC

As shown on sketch, *Figure 11*, a high tension power line has been constructed which runs in an easterly direction parallel to the C.N.R. to a point west of Geraldton, thence diagonally to a point on the north shore of Little Long Lac, thence across the lake to Little Long Lac Mines, Latitude  $49^{\circ} 40' 15''$  N., Longitude  $86^{\circ} 55' 15''$  W.

The line crosses that portion of the lake heretofore usually utilized by aircraft for taking off and landing, and is suspended about 20 feet above water on double poles on either shore only.

As the line has no distinguishing characteristics it is difficult to discern, and constitutes a serious hazard to pilots not familiar with the district.



O/41/34

17/10/34

### **AIR OPERATIONS IN UNORGANIZED TERRITORY**

Air Operations in unorganized territory demand careful preparation, well-found aircraft and experienced pilots.

The Minister of Transport has the authority to prescribe aerial routes and may restrict the use of commercial aircraft to flying in specified areas, on specified routes, for specified periods and upon compliance with specified conditions.

The Department has already specified what minimum equipment is to be carried on aircraft at all times and what emergency equipment is to be carried in flights over unorganized territory, but even when such requirements are met there can still be no assurance of safety without proper precautions being taken in regard to employing pilots with suitable experience and using aircraft properly fitted for the work which is being undertaken.

Recent accidents compel the Department once more to draw the attention of all operators to the dangers attendant upon flying in unorganized territory by inexperienced pilots and with ill-equipped aircraft, and to urge them to apply rules of good practice and common sense to all such air operations.

O/42/34

19/10/34

### **AMENDMENTS AND ENDORSEMENTS TO LICENCES**

District Inspectors are authorized to amend and endorse Pilot's and Air Engineer's certificates and Certificates of Registration and Airworthiness under certain conditions.

Any amendment or endorsement to a certificate or licence made by an unauthorized person will result in the immediate suspension of any certificate or licence involved.

All aircraft owners are warned, therefore, that no amendments or endorsements are permitted to be made to any certificates or licences issued by the Department of Transport except by its authorized representatives.

O/44/34

2/11/34

### **OVER WATER FLYING**

Commercial flights over water in landplanes have not been expressly forbidden by Air Regulations in Canada but it should hardly be necessary to draw the attention of all pilots and operators to the hazards involved.

It is the considered opinion of the Department that safety in such flying can only be obtained in the case of single motored aircraft by flying at such an altitude that it is possible to glide to land in the event of engine failure. In the case of multi-engined aircraft, the aircraft must be able to maintain a safe altitude with any one engine stopped. Where passengers are carried in landplanes over water, additional precautions must be taken so that, in the event of a forced landing on the water, signalling apparatus and life preservers or other flotation devices of an approved pattern are instantly available.

District Inspectors are authorized to ground aircraft used regularly in passenger flights over water which do not carry such equipment.



O/45/34

10/11/34

# MINER BIRD SANCTUARY—KINGSVILLE, ONT.

Longitude  $82^{\circ} 45' 00''$  W.

Latitude  $42^{\circ} 4' 00''$  N.

Pilots are warned to avoid the Jack Miner Bird Sanctuary situated in Essex County, near Kingsville, Ontario. The Sanctuary contains a reservoir which is marked on the map and is easily seen from the air.

See sketch map, *Figure 12*.

O/45/34.

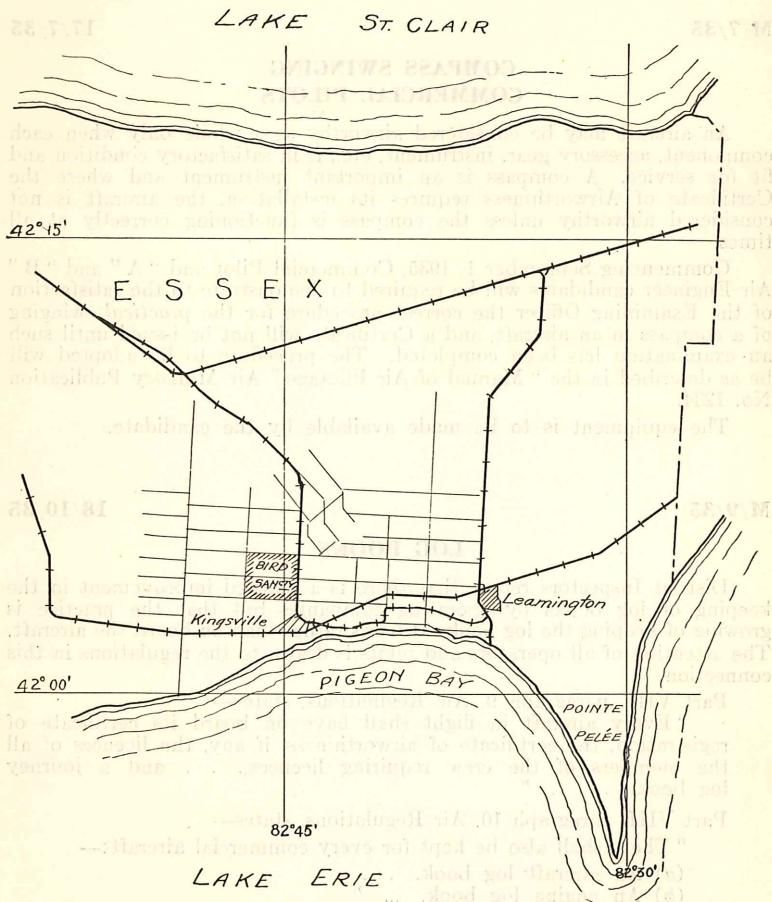


FIG. 12.

M/5/35

9/7/35

### **DANGEROUS FLYING WASAGA BEACH**

All operators of commercial aircraft are warned that the sand beach at Wasaga on the Georgian Bay, near Collingwood, is not licensed as an airharbour.

It is considered that land planes using this beach are a menace to public safety and all operators and pilots are warned that flying from this beach will be considered as a breach of Air Regulations.

M/7/35

17/7/35

### **COMPASS SWINGING COMMERCIAL PILOTS**

An aircraft may be considered airworthy as a whole only when each component, accessory gear, instrument, etc., is in satisfactory condition and fit for service. A compass is an important instrument and where the Certificate of Airworthiness requires its installation, the aircraft is not considered airworthy unless the compass is functioning correctly at all times.

Commencing September 1, 1935, Commercial Pilot and "A" and "B" Air Engineer candidates will be required to demonstrate to the satisfaction of the Examining Officer the correct procedure for the *practical* swinging of a compass in an aircraft, and a Certificate will not be issued until such an examination has been completed. The procedure to be adopted will be as described in the "Manual of Air Pilotage," Air Ministry Publication No. 1234.

The equipment is to be made available by the candidate.

M/9/35

18/10/35

### **LOG BOOKS**

District Inspectors report that there is a marked improvement in the keeping of log books by operating companies but that the practice is growing of keeping the log books at bases rather than on board the aircraft. The attention of all operators and pilots is drawn to the regulations in this connection.

Part VIII, paragraph 9, Air Regulations, states—

"Every aircraft in flight shall have on board its certificate of registration, the certificate of airworthiness, if any, the licences of all the members of the crew requiring licences, . . . and a journey log book. . . ."

Part VIII, paragraph 10, Air Regulations, states—

"There shall also be kept for every commercial aircraft:—

- (a) An aircraft log book. . .
- (b) An engine log book. . .

It will be noted that the journey log book must be carried on board the aircraft on all flights. The other log books may be kept at the base.

0/2/35

8/1/35

### **DANGEROUS OBSTRUCTION RED LAKE, ONT.**

It is notified for the information of all pilots flying in the Red Lake Mining District that a high tension transmission line has been constructed from the Howey Gold Mines to the McKenzie Red Lake Gold Mines Ltd., Latitude 51° 02' 15" N., Longitude 93° 50' 11" W., as shown on sketch, *Figure 13*.

The line crosses a portion of the lake at Sand Point, Hudson's Bay Point and Hammel's Narrows, areas usually utilized by aircraft for taking off and landing.

At these crossings the cables are approximately forty to fifty feet above the lake level and suspended from six-pole structures on either shore.

This line has no distinguishing characteristics and constitutes a serious hazard to pilots not familiar with the district.

0/3/35

8/1/35

### **BRANDON AIRPORT RATES AND CHARGES**

The following rates at the above noted airport have been approved:—

#### **COMMERCIAL AIRCRAFT**

Light aircraft—\$1 per diem.

Medium aircraft—\$2 per diem.

Heavy aircraft—\$3 per diem.

Landing and Storage fees, etc.—Monthly—\$15 to \$30.

#### **PRIVATELY OWNED AIRCRAFT**

Same as commercial daily rates.

Landing and Storage fees, etc.—Monthly: \$10 to \$25.

The above charges include landing, service and outside storage.

#### **HANGAR STORAGE**

\$1 per diem when accommodation is available.

All club aircraft landing and storage free.

0/5/35

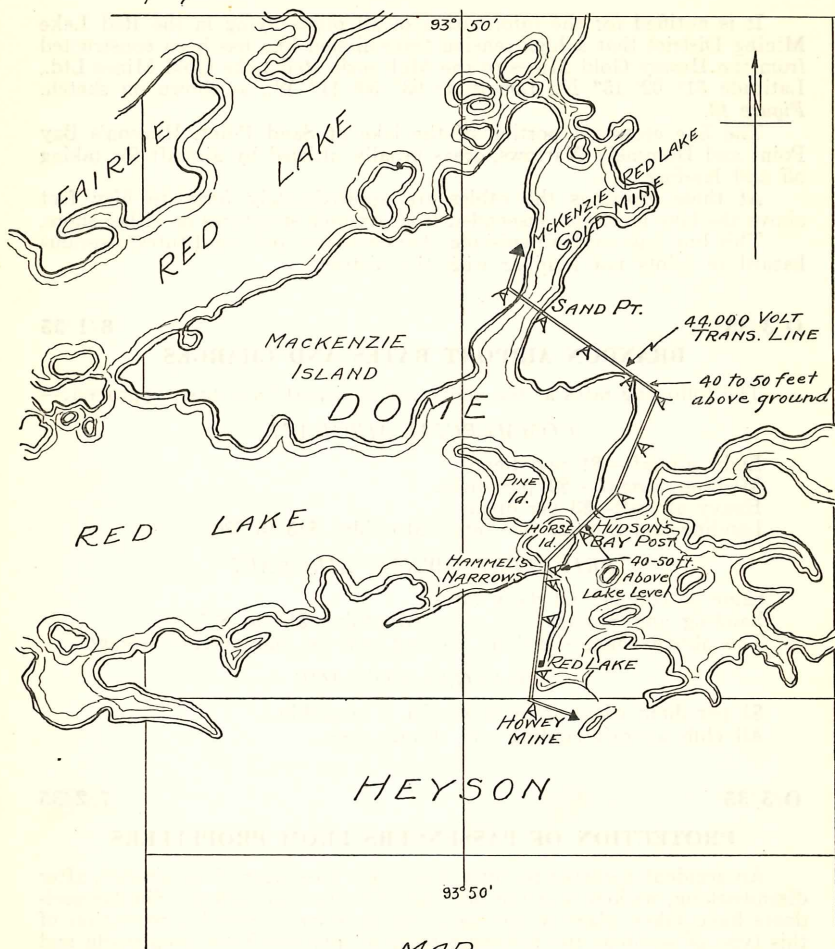
7/2/35

### **PROTECTION OF PASSENGERS FROM PROPELLERS**

An accident occurred recently whereby a passenger of an aircraft, after disembarking, walked into the propeller disc and was killed. Similar accidents have taken place in the past and in order to avoid a repetition of this type of accident the following recommendations have been made and are hereby promulgated:—

- (1) Upon arrival at an air base passengers should be required by the pilot to remain in the aircraft until the engine, or engines, of the aircraft have been brought to a full stop.
- (2) Where, owing to conditions such as intense cold, it might be detrimental to aircraft operations to stop the engine, or engines, a light portable structure for protection against propeller injury should be kept for use at bases and should be placed around a revolving propeller while passengers are embarking or disembarking.

0/2/35



MAP  
SHOWING  
LOCATION OF 44000 VOLT TRANSMISSION  
LINE FROM HOWEY MINE TO MACKENZIE ID.

FIG. 13.



**O/7/35**

**2/3/35**

### **OVER WATER FLYING**

Effective immediately, certificates of airworthiness for landplanes are only valid for flights over land or within gliding distance of land in the event of engine failure or, in the case of multi-motored landplanes, the failure of any one engine.

For the purpose of this requirement shorebound ice which affords a safe landing area may be considered as land.

**O/11/35**

**18/4/35**

### **PUSS MOTH MAXIMUM SPEED**

The circumstances concerning certain structural failures in Puss Moth aircraft over a period of years from 1932 have been under investigation by the Air Ministry, England. While the Investigating Committee have not yet published their final conclusions, they have suggested that owners and air engineers be advised to give special attention to the inspection of the fuselage structure after any incident which may have subjected it to excessive stresses or local damage.

In addition it has been recommended by them that the airspeed should not be allowed to rise above 120 m.p.h. when flying in cloud or in disturbed weather conditions.

In order that this warning may have maximum effect, it is suggested that a notice in the following wording should be affixed under or near the airspeed indicator—

**“AIRSPEED SHOULD NOT BE PERMITTED TO EXCEED 120  
M.P.H. WHEN IN CLOUD OR IN ROUGH WEATHER  
CONDITIONS”**

It is pointed out that this warning is not the result of any new weakness having been discovered in this type aircraft, but is the result of the conclusions arrived at by the above mentioned Investigating Committee.

**O/15/35**

**8/7/35**

### **DANGEROUS OBSTRUCTION CHARLOTTETOWN, P.E.I.**

Two steel radio towers 150 ft. high have been erected on top of the hill one mile east of the Upton Airport, Charlottetown, P.E.I. Pilots operating in this vicinity should use caution.

**O/19/35**

**20/7/35**

### **DANGEROUS OBSTRUCTION KANUCHUAN RAPIDS TO GOD'S LAKE, MANITOBA**

A high tension power line has been constructed from Kanuchuan Rapids to God's Lake.

As there is considerable air traffic taking place in this area, pilots are warned to exercise caution in carrying out flying operations. There are no distinguishing characteristics and the transmission line constitutes quite a hazard to those not familiar with the district.

**O/23/35**

**27/8/35**

### **PERFORMANCE AT ALTITUDE**

An accident, resulting in deplorable loss of life, occurred recently.

Investigation showed that the pilot attempted to take off a heavily loaded flying boat from a high altitude lake without allowing himself sufficient space for a safe take off and initial climb.

The attention of all pilots is drawn to the falling off in performance of aircraft at altitude. This is most noticeable at take off and landing and pilots are advised to use extreme caution under such circumstances.

Seaplanes are particularly affected because they will actually not take off at altitudes well below their flying ceiling. The performance of individual aircraft can only be known by actual test and observation and even then will vary greatly under different weather conditions.

Safety under all conditions can only be assured by allowing a generous margin above both the estimated and known requirements.

**O/24/35**

**11/9/35**

### **STOWAGE OF FREIGHT**

Part VIII, paragraph 7, of Air Regulations, 1938, places on the pilot the responsibility for the proper securing of the load carried in aircraft.

Particular care in this respect is necessary when any article of concentrated heavy weight is included as part of the cargo. Such articles will require to be adequately secured to a fixed part of the structure of the aircraft.

Further, when the freight includes mail bags or similar consignments carried in a passenger compartment, care should be exercised to ensure that such bulky articles are safely stowed and secured in such a way as not to interfere with access to ordinary or emergency exits for passengers and crew.

**O/26/35**

**11/10/35**

### **LANDINGS—INTERMEDIATE AERODROMES**

It is notified for the information of all concerned that, although many of the intermediate aerodromes at present under development on the Trans-Canada Airway can be used in emergency, others, in their present state, are distinctly hazardous.

Notification of the opening of these new aerodromes for general use will be given from time to time by circular letter.

Pilots using any aerodromes not officially notified as being open for general use do so at their own risk.

**O/27/35**

**9/10/35**

### **DANGEROUS OBSTRUCTION HAMILTON AIRPORT**

The new location of radio station C.H.M.L., situated within one-half mile east of Hamilton airport, constitutes a hazard not readily discernible under conditions of poor visibility and pilots are warned to use extreme caution in taking off towards or landing from the east side of the airport.

Two antennae towers 105 ft. high 250 ft. apart are painted the standard colour scheme—international orange and white—and have red obstruction lights 50 ft. from the ground and at the top of the masts.

The exact location of the station is on Lot 29, Concession II, Township of Saltfleet.

**O/31/35**

**30/11/35**

### **MULTI-ENGINED AIRCRAFT TAKING OFF**

Several accidents, attributed to mishandling by the pilot during take-off, have recently occurred on multi-engined aircraft in which the pilot's cockpit is in the nose of the fuselage, well forward of the landing wheels.

With such types, inexperienced pilots may not get the tail up sufficiently early during the take-off run. The run is thereby increased, and the machine may take off before a safe margin over the minimum flying speed has been attained.

It is strongly emphasized that pilots should obtain full information on the best method of taking off such types, and should make flights with progressively increased loads before attempting a take off at full load.

**1936**

**M/4/36**

**4/3/36**

### **SIGNALS TO AIRCRAFT**

On the recommendation of the Commercial Air Transport and Manufacturers' Association of Canada, the following signals are authorized for the purpose of communicating with aircraft from the ground, in "bush" operations, when an emergency exists:—

During the winter, the display of marks on the ground is as follows:—

V—call to pilot to land on account of sickness or other emergency.

X—signal to pilot that landing is unsafe.

II—to indicate safe landing, set out indicative of direction of the runway.

For summer use, interrupted smoke signals, the paddling of a canoe in close circles, or a sheet or white tent laid flat on the lake shore or clearing in the bush in the form of the "V," which is used in winter, denote that an emergency exists and that the pilot observing the signal should land.

Private signals from operators to their own aircraft and pilots should be of such a nature as NOT to conflict with the above, which are for use by all persons in case of emergency only.

**M/6/36**

**22/5/36**

### **ASSOCIATE COMMITTEE ON AERONAUTICAL RESEARCH**

#### **NATIONAL RESEARCH COUNCIL**

For a number of years, the Associate Committee on Aeronautical Research has carried out research work upon questions that arise in connection with aviation in the Dominion of Canada.

It has been the policy of the Committee to restrict this research work to problems that are peculiar to Canadian conditions, thus avoiding as far as possible duplication of work being done by other countries. Up to the present, work has been mainly in connection with the operation of aero engines under winter conditions, the design of skis for aircraft—particularly with a view to reducing the resistance and improving the method of trimming—and questions that arise in connection with seaplane floats.



The funds available for carrying out this work are strictly limited and, therefore, it is not possible to undertake work upon all the questions that arise but on the other hand the Committee is anxious to carry out such work as is most generally useful to aviation in the Dominion, and for this purpose aircraft operators and manufacturers are requested to advise the Committee from time to time of problems that may arise. The Committee will then be in a better position to select subjects for research that are most generally useful.

When sending in suggestions, correspondence should be addressed to the Secretary of the Associate Committee on Aeronautical Research, National Research Council, Ottawa.

**0/1/36**

**19/2/36**

### **VANCOUVER HARBOUR TOWING HAWSER**

By-law No. 60 of the Vancouver Harbour Commissioners has been repealed and substituted by the following By-law as published in the *Canada Gazette* dated at Ottawa, January 25, 1936.

"No vessel towing any other vessel or raft shall have its towing hawser or line exceeding 30 fathoms in length according to measurement from the stern of the vessel towing to the nearest portion of such vessel or raft being towed, except that when in waters lying to the west of the Brockton Point said towing hawser or line may be lengthened to not exceeding 50 fathoms on same measurement basis as foregoing."

The above By-law will be of interest to commercial operators making use of Vancouver harbour.

**0/4/36**

**17/4/36**

### **LIGHTS—AIRCRAFT**

Night flying aircraft are only to be considered airworthy when the following minimum lighting equipment is carried:—

- (i) For all aircraft operating between one-half hour after sunset and one-half hour before sunrise, navigation lights, as laid down in Air Regulations, 1938, Part V, Section I.
- (ii) For aircraft as above, when carrying a passenger or passengers, navigation lights, electric landing lights and emergency flares.

Such equipment must be of a type which meets with the approval of the Minister of Transport.

This ruling enters into effect forthwith.

**0/7/36**

**22/4/36**

### **CUSTOMS AIRHARBOUR GRAND FORKS, B.C.**

The Department of National Revenue, Customs Division, have closed Grand Forks as a Port of Entry and customs facilities will no longer be available at the Airharbour.



O/10/36

12/5/36

**DANGEROUS OBSTRUCTION  
MIDDLECHURCH, MAN.**

A radio mast 400 feet high has been constructed  $\frac{1}{4}$  mile west of the Red River and 500 feet west of the main highway at Middlechurch, Manitoba, Latitude 49° 59' 30" N., Longitude 97° 04' 10" W.

The mast has no guy-wires or aerals but will be painted with alternate bands of international orange and white.

O/11/36

14/5/36

**CLOUD FLYING**

Instrument flying training, including cloud flying will be practised at most flying clubs throughout Canada. Arrangements will be made, at airports affected, for the vicinity of the airport to be divided into zones for cloud flying practice. Since, however, it will not be possible for pilots approaching strange airports to know what local regulations are in force in each case, all pilots are warned to approach licensed airports well below the base of the cloud levels.

Before engaging in cloud flying in the vicinity of any licensed airport, pilots should acquaint themselves with the local arrangements in force.

O/12/36

9/6/36

**DANGEROUS OBSTRUCTION  
TORONTO, ONTARIO**

Two wireless masts 45 feet high have been erected on the south side of the hangars at No. 10 (City of Toronto) Squadron Aerodrome, Latitude 43° 42' 09", Longitude 79° 30' 00".

The masts are painted with alternate yellow and black bands. Pilots are warned to keep a lookout on approaching or flying in the vicinity of this aerodrome.

O/16/36

29/6/36

**DANGEROUS OBSTRUCTION  
ISLAND FALLS, SASKATCHEWAN**

A high-tension transmission power line has been constructed from Island Falls, Sask., Latitude 55° 31' 45", Longitude 102° 21' 30", south to the Hudson Bay Mining & Smelting Company, Flin Flon, Man., as shown on the sketch, *Figure 14*.

This line has no distinguishing characteristics and constitutes a hazard to air traffic when operating in that vicinity.

0/16/36

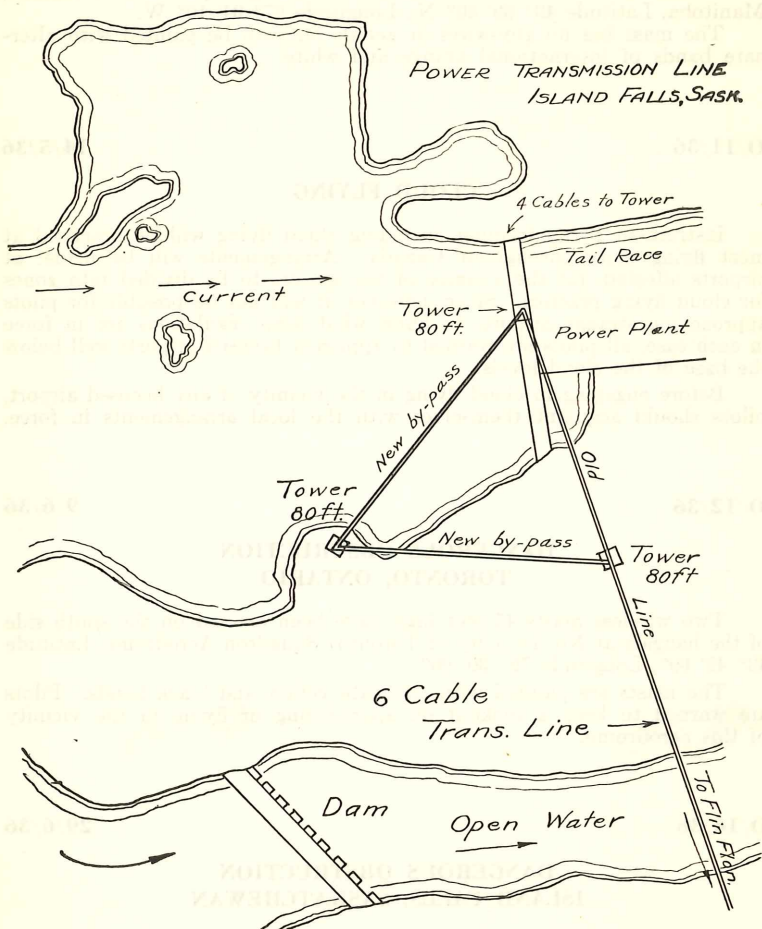


FIG. 14.

**0/18/36**

**17/8/36**

**CUSTOMS AIRPORT  
WALKERVILLE, ONTARIO**

The Walker Airport, Latitude 42° 16' 0", Longitude 82° 57' 45", will be reinstated as a Customs Airharbour with effect from September 1, 1936.

**0/20/36**

**24/8/36**

**SCHEDULED AIR TRANSPORT SERVICE**

Air Regulations, 1920, were amended on the 30th of May, 1936, so that in future no commercial aircraft shall be operated on any international or interurban scheduled air transport service unless the said service has been licensed by the Minister of Transport.

The conditions under which such a licence shall be issued have not yet been fully laid down, but operators intending to apply for a licence for a scheduled air transport service, either interurban or international, should be guided in general by the following minimum requirements:—

Terminal airports and intermediate fields at intervals not exceeding fifty miles must be licensed.

Night flying routes must be adequately lighted.

Weather reports covering the routes must be available.

Ground communications along the routes must be available.

Aircraft used must be of an approved type, and there must be sufficient spare aircraft to ensure regular service.

Multi-engine aircraft shall be capable of continuing flight with one engine out of commission at a height sufficient to clear all obstructions by at least five hundred feet in visual or contact flying, and one thousand feet in instrument or over-top flying.

Such multi-engine aircraft must be capable of continuing the take off with authorized load in the event of engine failure of one engine during take off.

Single-engine aircraft may only be used for passenger carrying by day, except under authority of certain waivers.

Single-engine aircraft may not be flown over water except within gliding distance of land.

Multi-engine aircraft over water more than fifty miles from shore must have approved flotation gear.

Certain instruments approved for scheduled air transport service must be incorporated in all aircraft.

First pilots must hold a Public Transport Pilot's Certificate.

Aircraft must carry sufficient oil and fuel to fly forty-five minutes in addition to the time required for the flight to the next scheduled stop, above and beyond that required by abnormal wind and weather conditions.

Aircraft may not be flown within five hundred feet of the ground, except during landings and take offs.

Intentional instrument flying is not to be carried out unless the ceiling is at least 500 ft. and the aircraft is fitted with serviceable radio equipment capable of—

(1) maintaining two-way communication with the ground and



- (2) receiving radio range beacon signals if ground stations are installed and/or obtaining D.F. bearings from the aircraft on suitable broadcasting stations operating during scheduled flight.

This notice is merely issued as a warning so that operators may not be misled into obtaining unsuitable equipment before the complete details are published covering the requirements for scheduled air transport services in Canada.

O/21/36

14/8/36

### **DANGEROUS OBSTRUCTION MONCTON—HALIFAX AIRWAY**

A dangerous obstacle to air navigation exists near Halifax, N.S. by the recent construction of a single antenna tower at the radio transmitting station located at a position given as Latitude 44° 44' 3" N., Longitude 63° 39' 10" W.

The position given is between the Canadian National Railway main line and No. 2 highway close to the forked intersections of the highways from Windsor and Truro to Halifax. See sketch, *figure 15*.

The top of the of the tower is 349 feet above sea-level and would be particularly hazardous for aircraft in flight under circumstances of low ceiling and poor visibility when the pilot might be forced to fly at a low altitude in order to maintain visual contact with either the railroad or the highway.

This tower has not been lighted with obstruction lights for night flying.

O/23/36

31/8/36

### **LANDING—HAZELTON, B.C.**

A small field at Hazelton, B.C. has been used occasionally for a number of years by aircraft, particularly of American registration, flying through to Alaska.

The field is unlicensed and is strictly limited in dimensions with a rolling surface and poor approaches, as a result of which a number of minor accidents have occurred from time to time.

While it is realized that the field in question is the only one in the vicinity of Hazelton, its use is discouraged for all types of aircraft and pilots should bear in mind that they bear the onus of responsibility in landing at this field.

O/24/36

22/9/36

### **DANGEROUS OBSTRUCTION ATHABASKA, ALTA.**

It is notified for the information of all pilots that telegraph and telephone lines and ferry cable are located across the Athabaska River, Latitude 54° 42' 30," Longitude 113° 11' 35," at a height shown on the sketch, *Figure 16*.

These wires and cable have no distinguishing characteristics nor markings and constitute a serious hazard to pilots flying in that vicinity.



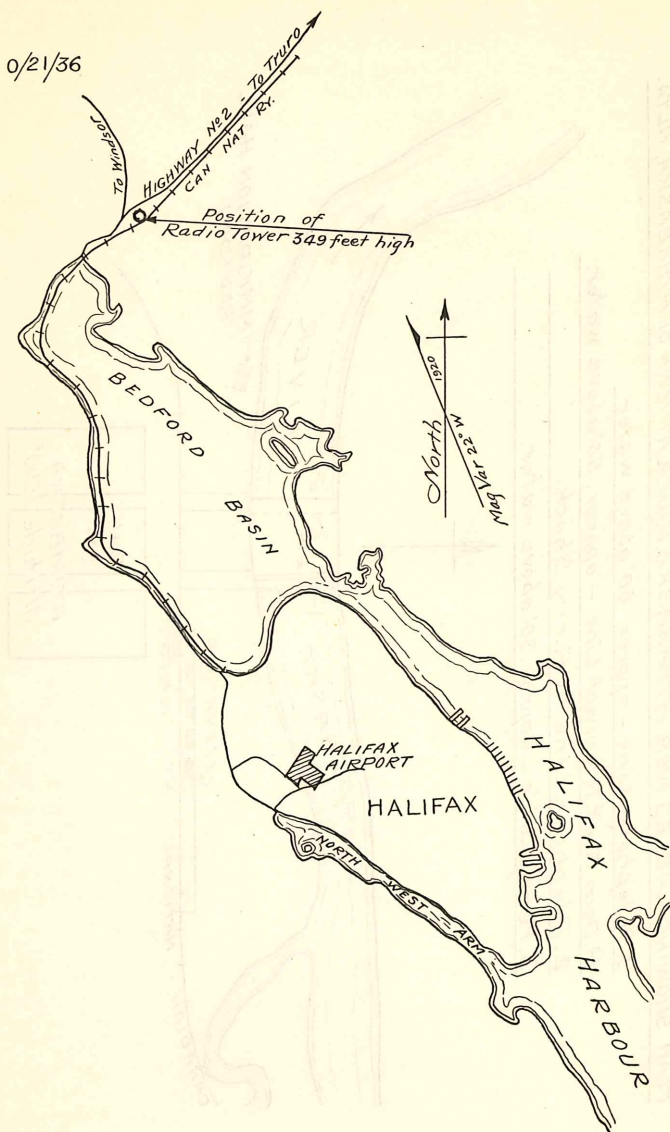


FIG. 15.

0/24/36

PLAN SHOWING CABLES OVER ATHABASKA RIVER AT TOWN OF ATHABASKA, ALTA.

1. Telephone Line - approx. 60' above water
- 1A. Dom Gov't. Telegraph Line - approx. 50' above water.
2. Telephone Line to Ferry Shack.
3. Ferry Cable - approx. 30' above water

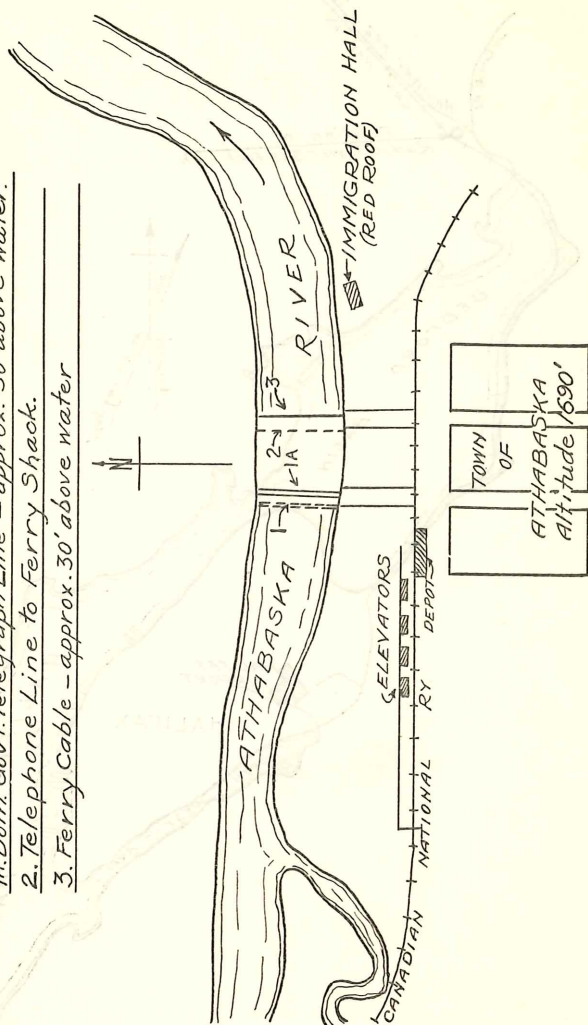


FIG. 16.

O/26/36

30/9/36

**DANGEROUS OBSTRUCTION  
LETHBRIDGE, ALTA.**

Two radio antennae poles 60 feet high painted with alternate bands of international orange and white and with red obstruction lights at the top have been erected on the west side of the hangar in the Lethbridge Airport.

These poles constitute a hazard and pilots are warned to use caution particularly under condition of poor visibility.

O/27/36

8/10/36

**DANGEROUS OBSTRUCTION  
FORT SMITH, N.W.T.**

A steel mast 100 feet high and painted black and yellow with a small flag at the mast head has been erected at a position as shown on sketch, *Figure 17*, Latitude  $60^{\circ} 1' 48''$  N., Longitude  $111^{\circ} 53' 0''$  W.

This mast constitutes a hazard and pilots are warned to use caution, particularly under bad weather conditions and poor visibility.

O/29/36

12/11/36

**DANGEROUS OBSTRUCTIONS  
ROUYN, P.Q.**

All pilots and operators are hereby notified of two hazards at Rouyn, Que., Latitude  $48^{\circ} 14' 30''$  N., Longitude  $79^{\circ} 01'$  W.

- (1) Two smelter roaster chimneys at the northeast corner of the Town of Noranda on the west side of Lake Osisko, the tops of which are 500 ft. above lake level.
- (2) Two radio masts near the Dominion Skyways base on the southwest corner of Lake Osisko. The tops of these are 120 ft. above the lake level.

The location of these hazards is shown on sketch, *Figure 18*

O/30/36

7/12/36

**TEST FLIGHTS—AIRCRAFT**

Information Circular No. 0-1/33 dated the 4th of January, 1933, lays down the requirements of the Department for the flight testing of subsequent aircraft of a type which already has been passed as airworthy by the department. The flight tests required are to be carried out at the maximum weight for which the aircraft is to be licensed.

Aircraft registered and passed as airworthy in Canada, before renewal of certificate of airworthiness, are to be test flown in accordance with Information Circular No. 0-1/33 but not necessarily at their maximum gross weight.

The flight tests for aircraft for which a certificate of airworthiness for export is required are to be observed by a representative of the Department of Transport.

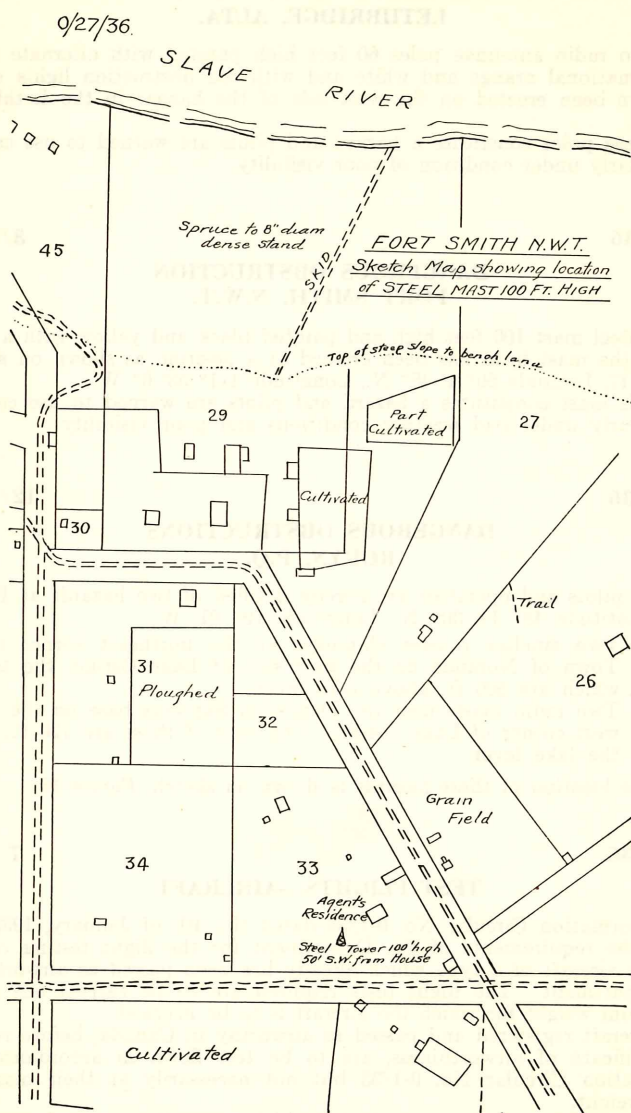


FIG. 17.



0/29/36.

# AIR HAZARDS - ROUYN

Smelter roaster chimney  
422' above ground -  
500' above Lake level.  
Smoke is wind indicator

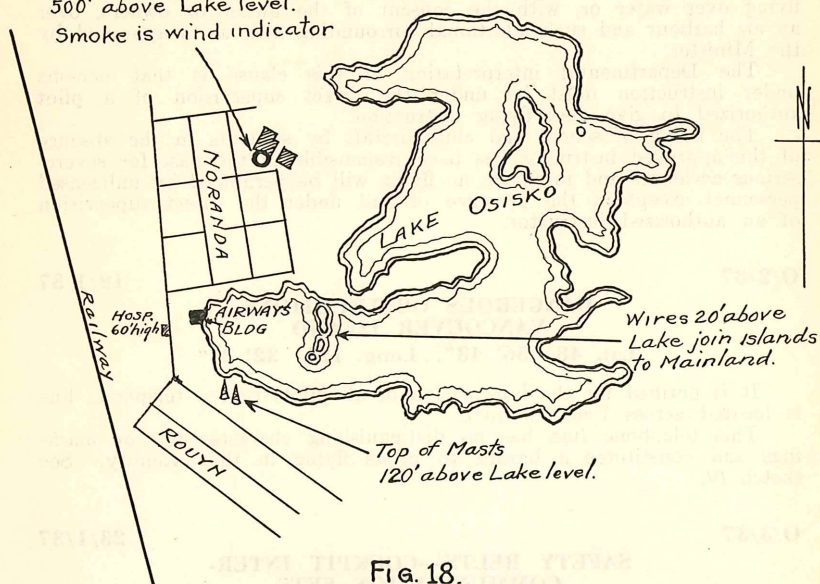


Fig. 18.

1937

M/11/37

20/10/37

### MEDICALLY LAPSED LICENCES

When a pilot has gone two years without a medical examination, and again appears for examination for the renewal of his licence, a complete examination will be required on form C.A. 60. The Department may also require such an examination at any time if considered desirable.

O/1/37

11/1/37

### FLYING UNDER INSTRUCTION

Part IV, paragraph 1, of the Air Regulations in general prohibits persons acting as pilots of aircraft unless such persons hold certificates issued by the Minister of Transport.

An exception is made in the case of persons under instruction flying over water or, with the consent of the owner or owners, over an air harbour and such additional surrounding area as is approved by the Minister.

The Departmental interpretation of this clause is that persons under instruction must be under the direct supervision of a pilot authorized to give dual flying instruction.

The flying of school and club aircraft by students in the absence of the approved instructor has been responsible in the past for several serious accidents and in future no flying will be permitted by unlicensed personnel except in the presence of and under the direct supervision of an authorized instructor.

O/2/37

19/1/37

### DANGEROUS OBSTRUCTIONS VANCOUVER ISLAND

Lat. 48° 56' 48", Long. 125° 32' 35"

It is notified for the information of all pilots that a telephone line is located across Ucleulet Inlet.

This telephone line has no distinguishing characteristics or markings and constitutes a hazard to pilots flying in that vicinity. See sketch 19.

O/3/37

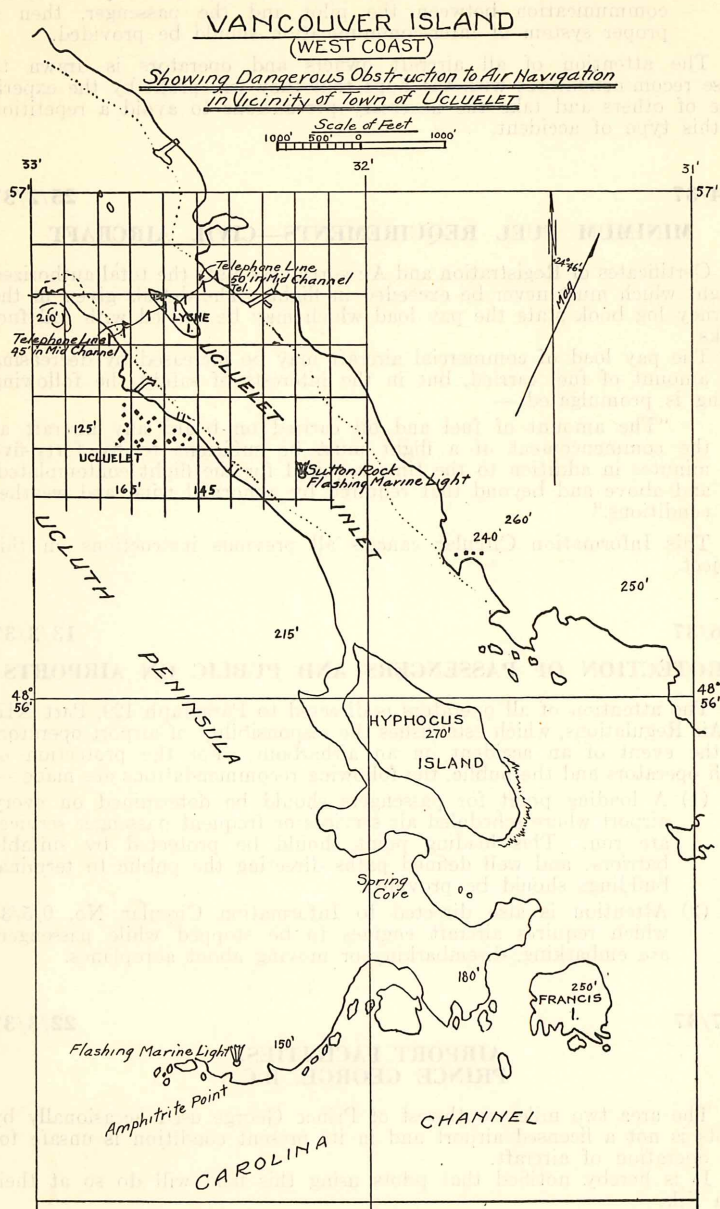
23/1/37

### SAFETY BELTS—COCKPIT INTER- COMMUNICATION SETS

An accident recently occurred to a two-seater open cockpit sea-plane, as a result of which both the pilot and his passenger lost their lives. It appears that neither passenger nor pilot used the safety belt provided and that in an effort to communicate one with the other the aircraft became out of control, with the result that the pilot was thrown out.

The board of inquiry made the following recommendations, which are concurred in:—

- (1) The occupants of all open type aircraft should use the safety harness provided.



- (2) That on such aircraft, should there be any necessity for inter-communication between the pilot and the passenger, then a proper system of inter-communication should be provided.

The attention of all aircraft owners and operators is drawn to these recommendations with the hope that they will profit by the experience of others and take the necessary precautions to avoid a repetition of this type of accident.

**O/4/37**

**25/2/37**

### **MINIMUM FUEL REQUIREMENTS—CIVIL AIRCRAFT**

Certificates of Registration and Airworthiness state the total authorized weight which must never be exceeded in flight. The details given in the journey log book state the pay load which may be carried with full fuel tanks.

The pay load of commercial aircraft may be increased by decreasing the amount of fuel carried, but in the interests of safety the following ruling is promulgated:—

“The amount of fuel and oil carried on board any aircraft at the commencement of a flight must be sufficient to fly forty-five minutes in addition to the time required for the flight contemplated, and above and beyond that required by abnormal wind and weather conditions.”

This Information Circular cancels all previous instructions on this subject.

**O/6/37**

**13/3/37**

### **PROTECTION OF PASSENGERS AND PUBLIC ON AIRPORTS**

The attention of all operators is directed to Paragraph 129, Part XII, of Air Regulations, which establishes the responsibility of airport operators in the event of an accident on an airharbour. For the protection of both operators and the public, the following recommendations are made:—

- (1) A loading point for passengers should be determined on every airport where scheduled air services or frequent passenger services are run. This loading point should be protected by suitable barriers; and well defined paths directing the public to terminal buildings should be provided.
- (2) Attention is also directed to Information Circular No. 0/5/35 which requires aircraft engines to be stopped while passengers are embarking, disembarking or moving about aeroplanes.

**O/7/37**

**22/3/37**

### **AIRPORT FACILITIES, PRINCE GEORGE, B.C.**

The area two miles southwest of Prince George used occasionally by pilots is not a licensed airport and in its present condition is unsafe for the operation of aircraft.

It is hereby notified that pilots using this field will do so at their own risk.



**O/11/37**

**4/5/37**

**BUFFALO MUNICIPAL AIRPORT,  
BUFFALO, N.Y.**

All pilots are warned that they should obtain a copy of and make themselves familiar with the local rules and regulations in force prior to making flights to or from this airport.

**O/12/37**

**13/5/37**

**PRIVATE AIRPORT—FAIRCHILD  
COMPANY, LONGUEUIL, P.Q.**

**Lat. 45° 33' 29" N., Long. 73° 29' 25" W.**

Attention is directed to the fact that although the above noted airport is usable, it is not in good condition after prolonged wet weather.

During thawing out periods, pilots are advised to communicate with the Fairchild Company before landing; and in the case of pilots who have not used the field before, it is recommended that they land at St. Hubert and visit Longueuil Airport in order to obtain first-hand information as to landing conditions.

**O/13/37**

**18/5/37**

**INTERMEDIATE AERODROME,  
BARONS, ALTA.**

**Lat. 50° 0' 20" N., Long. 113° 04' 0" W.**

Pilots and operators are hereby notified that the above noted Intermediate Aerodrome is unfit for use because of unsatisfactory surface conditions.

Notice will be given when the field is fit for operation.

**O/14/37**

**18/5/37**

**OBSTACLES—HAZARDS TO LOW FLYING  
BETWEEN QUEBEC-MONTREAL**

Recapitulated below is a list of flying hazards along the St. Lawrence River between Quebec City and Montreal, and in the vicinity of Montreal. Particular note should be made of the new C.B.C. Radio Tower being erected at St. Antoine, P.Q. This is not yet completed, but when finished will consist of a single vertical radiator 600 feet high.

	Above sea level
Quebec Bridge, top. Lat. 46° 44' 0" N. Long. 71° 15' 30" W. (approx.)	448 ft.
Three Rivers, P.Q. Lat. 46° 17' 30" N. Long. 72° 32' 0" W. (approx.). High tension transmission line span over St. Lawrence River. Height of towers on both East and West banks.	375 ft.
Lowest point in span of cable amid-stream above water	160 ft.
Yamachiche, P.Q. Lat. 46° 17' 0" N. Long. 72° 47' 30" W. Marconi Antennae (8) Masts.	350 ft.
Drummondville, P.Q. Lat. 45° 51' 10" N. Long. 72° 28' 30" W. Marconi Antennae (8) Masts.	315 ft.

	Above sea level
St. Antoine, P.Q. Lat. 45° 50' 0" N. Long. 73° 17' 0" W. (approx.). Proposed Canadian Radio Commission broadcast station antennae.....	650 ft.
Montreal (Jacques Cartier Bridge) top. Lat. 45° 33' 0" N. Long. 73° 33' 0" W. (approx.).....	340 ft.
Montreal, at Lachine. Lat. 45° 26' 0" N. Long. 73° 39' 0" W. (approx.). High tension transmission line M.L.H. & P. Co. span over St. Lawrence River. Height of towers on both and West banks.....	325 ft.
Lowest point in span of cable mid-stream, above water	120 ft.
Montreal-Mount Royal. Lat. 45° 32' 0" N. Long. 73° 35' 0" W. (approx.).....	725 ft.
Adjacent St. Hubert Airport	
Mount Bruno.....	distance off ( 5 miles) at 63° true
Mount St. Hilaire.....	distance off (12 miles) at 78° true
Mount Rougemont.....	distance off (18 miles) at 98° true
Mount Yamaska.....	distance off (28 miles) at 98° true
Mount Johnson.....	distance off (18 miles) at 128° true

**O/16/37**

**4/6/37**

#### **SEAPLANE HARBOUR LICENCES**

Notice is given that the following Seaplane Port Licences have been cancelled. All equipment has been moved and the areas are not available for use:—

(1) Georgia Street West, Vancouver, B.C. Permanent Licence No. 168 situated at the foot of Cardero St., Lat. 49° 18' N. Long. 123° 06' W.

(2) Esquimalt, B.C., situated at the foot of Pioneer Street in Constance Cove. Lat. 48° 26' N. Long. 123° 26' W.

This does not apply to the seaplane harbour licence granted to the Wells Airport Company at Esquimalt.

**O/17/37**

**7/6/37**

#### **MUNICIPAL AIRPORT—MEDICINE HAT, ALTA.**

**Lat. 50° 02' 0" N. Long. 110° 40' 0" W.**

Notice is hereby given that the licence of the municipal airport at Medicine Hat, Alberta, has been reinstated.

**O/18/37**

**8/6/37**

#### **LOG BOOKS—PURCHASE OF**

The following Log Books may be obtained upon application to:—  
The King's Printer, Department of Public Printing and Stationery, Ottawa, Ontario.

C.A. 1—Journey and Aircraft Log Book. Price, \$1.75 each.

B. 11—Engine Log Book. Price, \$1.75 each.

C.A. 5—Pilot's Log Book. Price, 35c each.

A cheque or money order made payable to the Receiver General to the value of the books required must accompany the order, otherwise orders cannot be filled.

**O/20/37**

**28/6/37**

**TRAFFIC CONTROL LIGHT—  
CITY OF VANCOUVER AIRPORT**

Notice is hereby given that a traffic control light projector has been installed in the Administration Building of the above airport and that movements of aircraft in the vicinity of the airport during busy periods, such as Sundays and holidays, must conform to the following signals:—

<i>Signal</i>	<i>Position of Aircraft</i>	<i>Action to be taken</i>
RED LIGHT	In the air	DON'T LAND—KEEP AWAY
RED LIGHT	On the ground, still rolling after landing	COME TO REST CLEAR OF APPROACH
RED LIGHT	Taxiing	STOP IMMEDIATELY
GREEN LIGHT	In the air	O.K. TO LAND
GREEN LIGHT	Ready for a take off and in the correct position	O.K. TO TAKE-OFF
WHITE LIGHT (A series of white flashes)	In wrong position	TAXI TO CORRECT POSITION
WHITE LIGHT	Used only when you are on the ground	O.K. TO TAXI

**O/21/37**

**25/6/37**

**PROHIBITED AREAS**

Reference: Air Regulations, Part VIII, Paragraph 5.

The following areas are to be avoided:—

**MAGAZINES AND EXPLOSIVE FACTORIES**

*East Selkirk, Man.*

This factory is the Canadian Industries, Ltd., situated 1½ miles from the town of Selkirk, bounded on the northwest by the Red River and on the southeast by the C.P.R. tracks.

*James Island, B.C.*

Explosive factory situated in Sydney Channel, near Vancouver.

*Nobel, Ontario*

Explosive factory in Parry Sound district.

*McMasterville, Que.*

Explosive factory.

*Brownsburg, Que.*

Dominion Cartridge Company factory.

*Cole Island, B.C.*

Naval magazine, Esquimalt Harbour, B.C.



## PENITENTIARIES

### *Dorchester Penitentiary*

Located at Village of Dorchester, N.B., as shown on standard topographical map, part of Sheet No. 14 S.W. (Moncton Sheet), area to be defined as a circle having a three mile radius from the Penitentiary buildings.

### *St. Vincent de Paul Penitentiary*

Located at Village of St. Vincent de Paul, Isle Jesu, P.Q., as shown on topographical map (Laval Sheet) No. 31  $\frac{H}{12}$  by Geographical Section, Department of National Defence; to be defined by a circle having a radius of two miles from the Penitentiary buildings.

### *Kingston Penitentiary*

Located at the Village of Portsmouth, near Kingston, Ontario, and shown on Kingston Sheet, prepared by Geographical Section, General Staff, Department of National Defence, and described as follows:—

All that area bounded on the North by Bath Road; on the East by the Westerly limit of the City of Kingston, being a straight line running South from the junction of York and Bath Roads to Lake Ontario; bounded on the South by Lake Ontario, and on the West by Little Cataragui Creek.

### *Collin's Bay Penitentiary*

Located at Collin's Bay, Ontario (Kingston Sheet), prepared by Geographical Section, General Staff, Department of National Defence, and described as follows:—

The whole of that area bounded on the North by Bath Road; bounded on the East by Little Cataragui Creek and including the whole of the area between Bath Road and the shores of Lake Ontario, and bounded on the West by the side road which runs South from Bath Road to PLEASANT POINT on Lake Ontario.

### *Manitoba Penitentiary*

Located at the Village of Stony Mountain, Manitoba, as shown on map prepared by Office of the Surveyer General, No. 73 (Winnipeg Sheet), and described as follows:—

The whole of that area bounded on the North by the Southerly limit of Stony Mountain Village, and bounded on the South by Miller Crossing (Road) and comprising the South half of Section 11, the whole of Section 2, and the Southeast quarter of Section No. 3, in Township No. 13, Range No. 2, East of the Principal Meridian as shown on map mentioned above.

### *Saskatchewan Penitentiary*

Located at Prince Albert, Saskatchewan, as shown on the city plan of Prince Albert and described as follows:—

The whole of that area comprising lots 52 to 61 inclusive, and bounded on the North by the North Saskatchewan River, on the East by Twentieth Avenue West; bounded on the South by Forty-Eighth Street, and on the West by Thirtieth Avenue West; these road allowances being outside the Penitentiary property.



### *British Columbia Penitentiary*

Located at the City of New Westminster, British Columbia, shown on Victoria Sheet No. 17, standard topographical map of British Columbia, prepared by the Department of the Interior, and described as follows:—

The whole of that area bounded on the Northwest by Eighth Avenue, and on the Northeast by Cumberland Street; bounded on the Southeast by the Fraser River, and on the Southwest by McBride Boulevard. Also an island located about twenty miles due North of the City of Victoria, B.C., in the Satellite Channel of the Strait of Georgia, and known as Piers Island, the boundaries being the short line as shown on the same map mentioned above.

## **FOX FARMS**

### *Pilot Butte, Saskatchewan*

A fox ranch, owned by the Sterling Silver Black Fox Co., Ltd., is located two miles east of Pilot Butte on No. 1 Highway, adjoining the main line of the Canadian Pacific Railway. The lookout tower is painted half orange and half black and a red flag is flown from the top of the tower.

### *Moose Jaw, Saskatchewan*

Mr. G. E. Hough. Situated at a point on the Southeast quarter of 35-16-27, which is about a mile west and a half mile south of the Moose Jaw Aerodrome.

### *Aylmer, Quebec*

A fox ranch, owned by Mr. J. W. D'Amour, is situated at a point about half way between the City of Hull and the town of Aylmer on the north side of the highway. A red flag is displayed from a mast over the watch tower.

### *Fort Qu'Appelle, Saskatchewan*

Fox ranch situated at a point southwest of the C.N.R. tracks and station. Highway No. 35 runs through the ranch.

### *Bird's Hill, Manitoba*

Fox ranch located on Lot No. 91 in the Municipality of East St. Paul, north of the Village of Bird's Hill, and on the north slope of the bank of the C.P.R. gravel pit.

Other fox farms are also located in the vicinity of Bird's Hill.

### *Camp Morton, Manitoba*

Bay silver fox ranch situated 1½ miles north of Camp Morton.

**O/23/37**

**8/7/37**

## **HANDLING OF NEW TYPE MONOPLANES**

The following is an extract from a Royal Air Force report and is circulated for the information of Canadian civil air pilots and operators:—

“As the handling of the new, heavy wing loaded monoplanes requires a different technique from that to which pilots have been

accustomed, the following information based on experience is issued for the information and guidance of all concerned. The information is set out under four headings:—

1. The take off.
2. Handling in the air.
3. The approach and landing.
4. General conclusions.

### 1. *The Take off*

The view aft from an enclosed aircraft cockpit is not so good as that from an open cockpit. Therefore, more care must be taken in taxiing out on the aerodrome to the take off position to make sure that approaching aircraft are not hampered.

The longest run of which the aerodrome is capable should invariably be taken. This is necessary because the take off speed is higher, and should it be desirable to throttle down the consequent run is longer. Also, modern aircraft require, as a rule, more room to take off.

Greater care than usual should be taken when setting the trimmers, particularly the elevator trimmer tab. The aircraft are more sensitive to trimmed adjustments than the obsolescent types are to the old-fashioned adjustable fixed tail planes. Any error in pre-take off setting should be towards nose heaviness.

The take off in a reasonable space with heavily loaded clean monoplanes is dependent upon the quickness with which the tail can be lifted off the ground. If this is not done quickly, the length of the run is increased more markedly than with lightly loaded biplanes.

Before opening the throttles, the pilot must look round all controls in the cockpit in a specified order. He should see that the flap gear is set at the correct taking off angle and the undercarriage warning lights are lit (indicating that the locks are in the down position), and that the airscrews are in fine pitch.

The take off then is simple and normal, though the speed at take off is higher than that to which we have been accustomed in the past. Care must be taken not to stall at the take off.

Modern engines are heavily boosted for take off conditions, and they should not be "over-run" in this condition unduly.

Pilots should wind up their undercarriage promptly after leaving the ground, gently raise the flaps to the upward limit as speed increases, shortly after clearing all obstructions; and ease back the throttles to the gated position at approximately 1,000 feet above obstructions. The tendency to swing on take off is less pronounced than with biplanes, because of the more marked directional stability.

### 2. *Handling in the Air-flying Characteristics*

Pilots must remember that engines can be badly damaged by being over-run with maximum boost at low speeds at the maximum rate of climb. Engines will last better and be more reliable if the aircraft is climbed at a good forward speed; for instance, the best climbing speed of a recent monoplane is 140 m.p.h. at 1,000 feet, reducing by about 1 m.p.h. per thousand feet during the climb, and this is typical of modern aircraft.

Pilots must also remember that during certain manoeuvres or when stalled a heavily loaded monoplane will lose height more quickly than is the case with lightly loaded biplanes. Furthermore, if the nose is depressed very slightly, acceleration is very rapid and, until constant speed airscrews are in production, pilots must guard against inadvertent over-running of engine as a consequence.



Owing to the heavy wing loading, small radii of turn are not a practicable proposition, since during tight turns a high load factor causes the aircraft to stall at quite high speeds. Furthermore, owing to the high speeds it is easy to impose excessive accelerations on the crew, particularly where members of the crew are well aft in the aircraft.

The cleaner and more efficient an aircraft, the longer time and greater distance does it require to attain maximum speed. Similarly, the aircraft decelerates very slowly indeed, and this point may be of importance in formation flying. It is therefore important that pilots should strictly comply with the regulations regarding "distance and interval" when flying in formation.

No difficulty should be found in navigation at normal and high altitudes. But owing to the speed at which distances are covered, greater care in the preliminary preparations on the ground for setting a course and calculating E.T.A. must be taken than has been necessary in the past.

### 3. *The Approach and Landing*

Before coming in to land, the pilots must accustom themselves to the feel of the aircraft at reduced speeds. With this object in view, it should be an invariable rule to make a wide circuit of the aerodrome at 90/115 m.p.h. at a safe altitude. The undercarriage should be lowered during this circuit. Pilots must satisfy themselves that the undercarriage is locked down by the warning light showing green; an audible warning device is fitted which automatically comes into operation when the throttles are closed with undercarriage up. Should the undercarriage warning lights not show green after a reasonable time, the pilot should use the emergency undercarriage device. If the undercarriage fails to lock in the down position in spite of all efforts with the power and emergency hand operated device, the aircraft should be landed if possible with undercarriage fully retracted, as this results in little damage. Whereas, landing with a partly retracted undercarriage is dangerous.

When speed is sufficiently reduced, pilots should lower their flaps to landing position and retrim the aircraft on the elevator tabs as necessary. It is pointed out that the flaps perform two functions, they (i) increase the drag to steepen the approach or slow up the aircraft after flattening out, but (ii) they also increase the lift co-efficient.

Lowering the flaps tends temporarily to flatten the glide until further speed is lost, when the angle of glide will steepen. It is thus better to lower the flaps when circling in level flight under engine power at some height before commencing to glide in. Conversely, when flaps are raised, K.L. is reduced and if done suddenly at low speed the aircraft tends to drop at first until speed is picked up. This operation should only be effected gently and at a safe height.

Having become accustomed to the feel of the aircraft in this condition the pilot should make a wide sweep of the aerodrome and choose a clear path of approach. A long straight approach should then be made with the assistance of the engines from such a distance as to bring the aircraft short of the boundary. The engines should then be opened up slightly to flatten the approach and the aircraft brought in, just clearing the edge of the aerodrome, at about 10-15 m.p.h. above the stalling speed. Sideslips and turns to lose height near the ground must not be carried out.

The easiest method of landing is for the pilot to lower the aircraft on to the aerodrome by the gradual closing of the throttles. Most modern aircraft slow up reasonably quickly when the throttles are closed owing to the additional air drag caused by the flaps.

It is not good airmanship to use wheel brakes more than necessary. They tend to heat up if used excessively and they wear out quickly,

while their adjustment and maintenance is not always too easy. It is, therefore, important to use the maximum space for landing so that very little brake is required to pull up.

As a rule aircraft land with little damage on their bellies with undercarriage raised, but serious consequences may be expected if the undercarriage is not locked down or is partly down. It should, therefore, be the rule that if forced landings have to be made in restricted spaces, particularly if the engines have failed, they should be made with the undercarriage up.

As the modern monoplane is more directionally stable than the old biplane, there is less tendency for multi-engined monoplanes to swing if an engine cuts out. In fact, on many types, change in direction even with feet off the rudder bar is negligible or quite gentle. Many of the new types can be flown continuously "feet off" except for take off, for landing, or for flat turns. Lateral and elevator control is better graded and quicker in response than with biplanes of equivalent size.

These improvements in control are liable to result in pilots becoming too self-confident before they have adequate experience of the peculiarities of heavily loaded monoplanes.

It is essential to impress on young pilots the importance of setting the airscrew at fine pitch before coming in to land. If this is forgotten and it is necessary to go round again, many modern aircraft will not maintain height on full throttle with the airscrews in coarse pitch with undercarriage and flaps down at speeds in the neighbourhood of the stall and, therefore, will sink to the ground and possibly crash.

Before taxiing in, the flaps *must* be raised, as mud and water or stone thrown up by airscrews and wheels may cause damage to the flaps.

#### 4. Conclusions and Summary

Pilots must familiarize themselves with the position, operation and functions of all controls by adequate practice on the ground.

Pilots must be taught the following sequence of events till it becomes second nature:—

##### (i) *Before take off*

- (a) Have course, bearings and E.T.A. properly prepared.
- (b) Ensure that the undercarriage is properly locked down and that the warning lights are functioning properly.
- (c) See flap position for take off.
- (d) Set trimming tabs for take off.
- (e) Set airscrew to fine pitch.
- (f) See if aerodrome is clear before taxiing out.
- (g) Use full aerodrome space for take off.

NOTE.—The greatest care must be taken to ensure that undercarriage indicator lights are working and contacts correctly adjusted to show when undercarriage is locked up and down. Also that audible warning device is working. Otherwise the pilot will get false indications and mishaps will occur.

##### (ii) *After take off*

- (a) Raise undercarriage.
- (b) Set airscrew to coarse pitch.
- (c) Raise flaps.
- (d) Ease back engine throttle to "gate."
- (e) Climb at a good forward speed.



(iii) *In the Air*

- (a) Do not let the excellent controls make one too confident and thus take risks.
- (b) Do not do tight manoeuvres at high speed.
- (c) Do not carry out turns or other manoeuvres which may result in inadvertent loss of height near the ground.
- (d) Guard against "over-running" the engine due to the rapid acceleration when the nose is depressed.

(iv) *The approach and landing*

- (a) Slow up and make a wide circuit of the aerodrome at 90-115 m.p.h. to get accustomed to the feel at low speed.
- (b) Lower undercarriage.
- (c) Set airscrew in fine pitch.
- (d) Lower flaps.
- (e) Make long straight approach without side-slipping or "S" turns to come in short of the aerodrome at 10-15 m.p.h. above stalling speed.
- (f) Use engines to clear aerodrome boundary with slow flat approach. (10-15 m.p.h. above stalling speed.)
- (g) Use brakes with discretion to prevent excessive wear.
- (h) Raise flaps at the coming to rest.
- (i) Watch for other approaching aircraft and taxi in.

5. *Use of Trimming Tab*

Recent investigations have shown it is possible to produce excess loads on elevator structures by using trimming tabs at high speeds. Purpose of trimming tab is to enable aircraft to be trim (a) in horizontal flight under varying conditions of loading, speed and engine power (b) at correct gliding speed used when approaching to land. Trimming tabs are *not* included for manoeuvring purposes and use as an auxiliary elevator control at speeds in excess of maximum horizontal speed is prohibited.

O/25/37

29/6/37

## REINDEER PROTECTION

Under the Reindeer Protection Ordinance and Regulations, the Commissioner of the Northwest Territories exercises considerable supervision over the activities of persons who live within the Reindeer Reserve near the Mackenzie River delta, or who may pass through the reserve. It is the practice to issue permits to persons on whose co-operation the Commissioner can rely in the protection of the reindeer herd.

The attention of all operators is drawn to the difficulty the Department has in making known to visitors the necessity for avoiding any disturbance to the reindeer herd. Any persons intending to proceed by air through the reindeer reserve near the Mackenzie River delta should communicate in advance with Dr. J. A. Urquhart, Aklavik, or if in the vicinity of the Reindeer Station, with Mr. John Parsons, labour foreman, who will give such directions as may be necessary in the circumstances.

O/26/37

6/7/37

# **NEW CONDITIONS FOR HOLDERS OF A PRIVATE PILOT'S LICENCE**

Holders of a private pilot's licence should, at their earliest convenience, present their licence to the District Inspector in order that the following endorsement may be made:—

"The holder of this licence may, for the purpose of having additional types of aircraft added, fly such aircraft either alone or accompanied by an instructor for a total time not exceeding three hours."

O/27/37

28/7/37

## **DANGEROUS OBSTRUCTION OUTPOST ISLAND, NORTHWEST TERRITORIES**

A telephone line 20 feet above the water area has been erected at Great Slave Gold Mines, as shown in Fig. No. 20.

O/28/37

10/8/37

## **DANGEROUS ALIGHTING AREA, INTERMEDIATE AERODROME—INDIAN HEAD, SASK.**

The intermediate aerodrome at Squirrel Hill, south of Indian Head, Sask., has been surveyed, and the N.W.-S.E. and N.E.-S.W. landing strips have been staked out at 50-foot intervals. The stakes constitute a hazard and the landing strips should not be used except in case of an emergency.

O/27/37

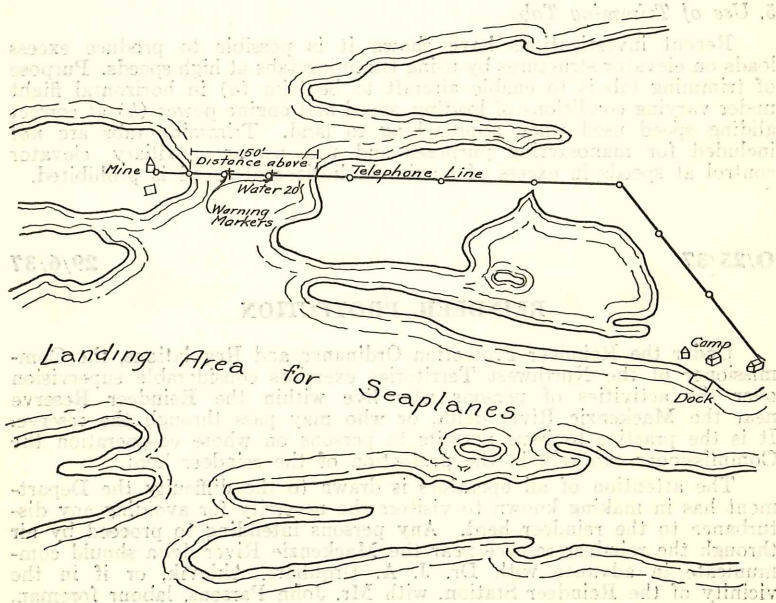


FIG. 20

**O/31/37**

**25/8/37**

**CLOSED LANDING AREAS—HALIFAX HARBOUR**

The Halifax Harbour Master, acting under authority of Air Regulations, Part V, has published the following notice:—

“Seaplanes, when making use of any landing place in Halifax Harbour, shall neither alight on the surface nor take off from the surface of that part of the Harbour known and described as ‘The North West Arm’.”

Pilots flying in this vicinity will please govern themselves accordingly.

The attention of pilots using water areas crossing water lines of traffic is directed to Part V, Section VI, of Air Regulations.

**O/32/37**

**26/8/37**

**DANGEROUS OBSTRUCTION—BEDFORD, N.S.**

The radio broadcasting tower, 224 feet in height, situated between the highway and the Canadian National Railway, three-quarters of a mile northeast of the Town of Bedford, N.S., (Latitude 44° 44' N., Longitude 63° 39' W), has been lighted with neon lights at intervals of 75 feet and 150 feet from the bottom and at the top. These lights are said to be visible for a distance of 10 miles under conditions of clear visibility (see Information Circular No. 0/21/36).

**O/33/37**

**4/9/37**

**COMPULSORY AIRCRAFT INSURANCE  
UNITED KINGDOM**

Notification has been received from Air Ministry, London, of the coming into effect on October 1, 1937, of compulsory aircraft insurance for all aircraft flying in the United Kingdom. Any operator considering the operation of Canadian registered aircraft in the United Kingdom should obtain a copy of the Air Navigation (Third Party Risks) Regulations, 1937, from Air Ministry, London, W.C.2.

**O/34/37**

**11/9/37**

**SEAPLANE LANDING—PRINCE RUPERT, B.C.**

A landing slip for the accommodation of seaplanes has been installed by the Imperial Oil Company at Prince Rupert, B.C.

The ramp is located at the foot of the Imperial Oil dock, recognized by the large oil tanks at the head of the dock, which is located on the east side of the town.

**O/36/37**

**9/9/37**

**PROHIBITED LANDING AREAS  
O'BRIEN GOLD MINE, P.Q.  
OPEMISKA COPPER MINE**

The winter landing fields previously used at O'Brien Gold Mine, P.Q., and Opemiska Copper Mine, P.Q., are considered unsafe for commercial flying operations and their further use is prohibited.

It is recommended that Revillart Lake be used in winter instead of the O'Brien field, and that Lac Presqu'île be used for winter operations to Opemiska Copper Mine.



**O/39/37**

**28/9/37**

**DANGEROUS OBSTRUCTION, HULL, P.Q.**

The radio broadcasting tower of station CKCH located at 620 St. Joseph Blvd., Hull South, P.Q., Long. 75° 44', Lat. 45° 28', is now lighted by a 200 watt ruby red electric bulb placed on the top of the 204 ft. tower.

**O/40/37**

**15/10/37**

**DANGEROUS ALIGHTING AREA  
KAPUSKASING INTERMEDIATE AERODROME**

Pilots are hereby notified that, until further notice, the aerodrome at Kapuskasing is not suitable for landing purposes and that aircraft, if proceeding through Northern Ontario, should arrange for refuelling at Porquis Junction in lieu of Kapuskasing.

This Circular does not infer that the route through Northern Ontario is open for general use. Pilots unfamiliar with the route should obtain prior information before undertaking any flight.

**O/41/37**

**20/10/37**

**PRIVATE PILOT'S LICENCE—CANCELLATION**

A private pilot obtaining a Limited Commercial Pilot's Licence will not be allowed the option of retaining his old licence in future.

A Limited Commercial Licence gives the holder all the authority that is given by the private pilot's licence, and cases have occurred where the holding of the private pilot's licence has provided a loophole for unauthorized flying by those whose commercial licences have lapsed.

On receipt of their Limited Commercial Pilot's Licence pilots are to return their private pilot's licence to the Superintendent, Air Regulations, for cancellation.

**O/42/37**

**20/10/37**

**REQUESTS FOR AIR ENGINEER'S AUTHORITY**

Air Engineers holding (b) and (d) certificates will normally be required in future to pass examinations before additional types of aircraft or engines are endorsed on their licences.

Temporary (b) and (d) authority will not normally be granted, except under special circumstances, and Air Engineers who require same to sign out aircraft or engines after structural repair must apply far enough in advance to the District Inspector to enable him to forward their requests to Headquarters with his recommendations.

**O/43/37**

**1/11/37**

**ICING OF AILERONS**

Attention is directed to the possibility of the lateral control of an aeroplane becoming temporarily jammed when severe icing conditions have been encountered.

This trouble has been experienced recently during special experimental flights under icing conditions. The jamming was temporary only, and occurred after the aeroplane had been flown in icing conditions for periods



varying from thirty minutes to three hours. In each case the jamming started after leaving the icing conditions, and was probably due to ice being thawed off the leading edges of wing and ailerons and being blown backward into the aileron gap. The first indications to the pilot was a sharp sideways snatch on the control column, displacing it sideways about one-fifth of its total travel. The pilot succeeded in freeing the control by increasing the displacement of the control column momentarily to allow the trapped ice to be blown away. It seems probable that any attempt to force the control column back to the central position before freeing the trapped ice in this way would have damaged the aileron or control circuit.

**O/46/37**

**10/11/37**

**LIGHTING—EDMONTON AIRPORT**

Boundary lights at this airport will not be available during construction of runways now in progress and the airport has been placed out of bounds for normal night flying during this period.

In case of extreme emergency, the airport manager will arrange to place emergency lights on receipt of sufficient advance notice.

**O/47/37**

**19/11/37**

**DANGEROUS OBSTRUCTION  
YELLOWKNIFE, N.W.T.**

The five radio masts of the Royal Canadian Corps Signals station at Yellowknife, N.W.T., constitute a hazard to aircraft using the adjacent lake. Red flags will be flown from the tops of these masts which are 60 feet in height.

The location of the masts is shown in Fig. No. 21.

**O/49/37**

**1/12/37**

**PROHIBITED ALIGHTING AREA  
PINE LAKE, P.Q.**

Pine Lake, P.Q.—Long. 77° 11' 30", Lat. 48° 11' 25"—is considered to be small for the purpose of alighting and taking off of aircraft. Its further use as an alighting area for passenger-carrying aircraft is, therefore, prohibited.

Fish Lake is recommended as an alternative for the alighting of all aircraft.

**O/51/37**

**6/12/37**

**DANGEROUS OBSTRUCTION  
STONECLIFFE, ONTARIO**

A single telephone line 1,000 feet to 1,200 feet in length is being erected across the Ottawa River at Stonecliffe, Ontario. Long. 77° 54', Lat. 46° 13'.

International orange pennants suspended from the line will indicate this hazard, and the poles on shore are being painted alternate rings of international orange and white.

O/47/37

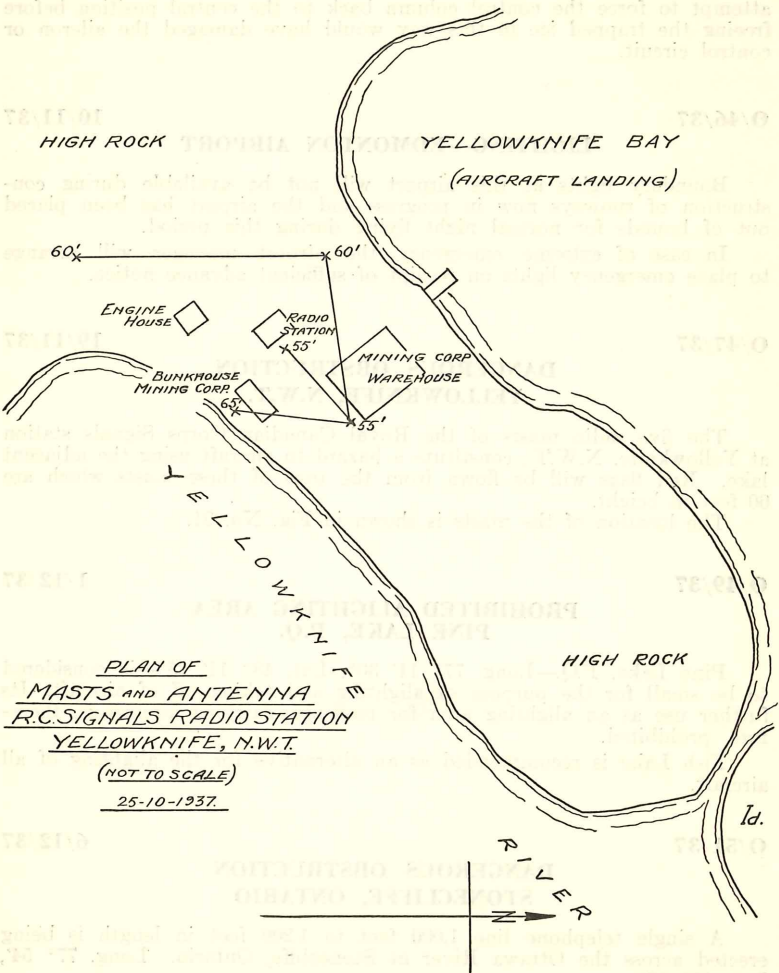


FIG. 21

O/53/37

9/12/37

### MIXTURE CONTROL, AERO ENGINES

British Air Ministry Air Publication 1208, Airworthiness Handbook for Civil Aircraft, states:—

"The altitude and/or economizer control must be interconnected with the throttle so that the mixture will automatically be brought to the normal rich position as the throttle is closed. This requirement may be waived in individual cases."

In future, on aircraft for domestic use within Canada, this requirement will be waived.

O/54/37

11/12/37

### DANGEROUS OBSTRUCTION EDMONTON, ALTA.

The two masts of radio station CJCA in S.E. 4-26-53-24-W4M at Edmonton, Alta., are five miles N.E. of Edmonton Airport and constitute a hazard to aircraft operating in that vicinity.

The masts are 150 feet in height, are located on high ground, and will be painted and lighted so as to be clearly visible to pilots.

## APPENDIX

### CONDITIONS OF ISSUE OF PRIVATE AIR PILOT'S CERTIFICATE

1. A Private Air Pilot's Certificate does not authorize the holder to fly for hire, or for any reward except a prize in a contest under the auspices of a recognized aeronautical association.

2. A Certificate will be issued only after flying tests and examinations as set out below, except that qualified military pilots may be exempt from flying tests.

3. No private Air Pilot shall take up a passenger in any aircraft unless he has flown an aircraft of that type for at least two hours, either alone or accompanied by an instructor, within the last six months and has completed at least twenty-five hours' solo flying.

4. Certificates remain valid only if the holder passes a satisfactory medical examination at least every twelve months and after any serious accident or illness, and may be cancelled at any time for cause.

5. Flying tests for private air pilots' certificates, which must be completed to the satisfaction of the examiners, will be as follows, the candidate being alone in the aircraft:—

(i) Tests for Taking Off and Alighting.

(a) A flight during which the pilot shall attain a minimum altitude of 5,000 feet above the sea level. The descent shall finish with a glide, the engine shut off at 5,000 feet above the sea level. The alighting shall be made without restarting the engine and the aircraft shall be brought to rest within 300 feet of a point fixed beforehand by the examining officer of the test.

(b) Four flights in each of which the pilot shall ascend to at least 1,500 feet above the ground or water and shall, after shutting off his engine at that height, and without restarting it, land and bring the aircraft to rest within 150 feet of a mark selected before taking off.

(ii) Tests of Skill.

On one of the four flights last mentioned, the pilot shall fly at an altitude of not less than 1,500 feet above the ground or water around two marks situated at least 550 yards apart, making, to the satisfaction of the Examining Officer, a series of five figure-of-eight turns, each turn reaching one of the marks.

(iii) Spins.

A certificate from the Flying Instructor that the applicant is competent and has carried out spins satisfactorily, must be furnished before the applicant will be admitted to tests.

6. The conditions of the five specified flights must be exactly complied with in a total of no more than seven attempts. If available a barograph shall be carried, and the graph, signed by the examiners, will be attached to their report which will cover all incidents, especially the alighting.

7. The examination will be upon the provisions of the Air Regulations, especially those parts relating to lights, signals, rules of the air, and traffic in the vicinity of Aerodromes.

8. The medical examination will be made by a medical officer approved by the Minister of Transport, and will be based upon the following requirements of mental and physical fitness:—

- (a) General consideration. Good family and personal history, with particular reference to nervous stability. Absence of any mental, moral or physical defect which will interfere with flying efficiency.
- (b) General surgical examination. The candidate must neither suffer from any wound, injury or operation nor possess any abnormality, congenital or otherwise, which will interfere with the efficient and safe handling of aircraft.
- (c) General medical examination. The candidate must not suffer from any disease or disability which renders him liable suddenly to become incompetent in the management of aircraft. He must possess heart, lungs, kidneys, and nervous system capable of withstanding the effects of altitude and also the effects of prolonged flight.



- (d) Eye examination. The candidate must possess a degree of visual acuity equal to 80 per cent for both eyes with correction by glasses if necessary. Ocular poise, the field of vision of each eye and colour perception must be normal.
- (e) Ear examination. The middle ear must be healthy. The candidate must possess an auditory acuity not less than that corresponding with the perception of the whispered voice at one metre. The vestibular mechanism must be intact and not hypersensitive. It must be equal on both sides.
- (f) Nose, throat and mouth examination. The candidate must possess free tubal air entry on both sides.
- (g) Minimum age. Candidates for private air pilots' certificates may not apply for a certificate before the age of seventeen.

## CONDITIONS OF ISSUE OF LIMITED COMMERCIAL AIR PILOT'S CERTIFICATE

1. Limited commercial air pilots' certificates will not be granted to persons under 19 years of age or over 45 years of age.
2. Limited commercial air pilots' certificates will be valid in Canada only.
3. Limited commercial air pilots' certificates will be issued subject to the following conditions:—
  - (a) The certificate will extend only to the type or types of aircraft specified.
  - (b) The holder shall not carry passengers for hire unless he has completed at least one hundred hours as first pilot.
  - (c) The holder, if authorized to carry passengers for hire in any type of aircraft, shall only do so after he has flown an aircraft of that type for at least two hours within the last six months.
  - (d) The holder may, for the purpose of having additional types of aircraft added, fly such aircraft solo for a total time not exceeding three hours.
  - (e) The holder shall not give dual flying instruction unless specially authorized.
  - (f) The certificate will be subject to the holder passing a satisfactory medical examination and being certified as fit to fly, at least every six months if of the male sex, and at least every four months if of the female sex. The holder shall also, before flying after any serious accident or illness, pass a like examination and obtain a like certificate. The examinations are to be made by a medical officer approved by the Minister of Transport, and the result thereof endorsed on the certificate.
4. Limited commercial air pilots' certificates will be valid for day flying only.
5. Certificates will be issued only after flying tests and technical and medical tests and examinations as set out below.
6. Certificates will be issued in respect of definite types and models of types of aircraft on which the candidate can establish satisfactory proof of at least two hours' solo flying.
7. Flying tests for limited commercial air pilots' certificates will be as follows:—
  - (i) **TESTS FOR TAKING OFF AND ALIGHTING.**
    - (a) A flight, to the satisfaction of the examining officer during which the pilot shall attain a minimum altitude of 5,000 feet above point of departure and finish with a glide, the engine being shut off at that height, the alighting made without restarting the engine, and the aircraft brought to rest within 300 feet of a point fixed beforehand by the examining officer of the test.
    - (b) Four similar flights in each of which the pilot shall take off and climb steadily until signalled by the examining officer, whereupon he shall immediately close the throttle and without again opening the throttle shall alight, bringing the aircraft to rest within 150 feet of a mark selected before taking off.
  - (ii) **TEST OF SKILL.**

On one of the four flights last mentioned, the pilot shall fly at an altitude of not less than 1,500 feet above the ground or water around two marks situated at least 550 yards apart, making, to the satisfaction of the examining officer, a series of five figure-of-eight turns, each turn reaching one of the marks.
  - (iii) **TEST OF ENDURANCE.**

A cross country or overseas flight of at least 200 miles, beginning and ending at the same point. The candidate shall be informed of his course. The examiner will decide whether the flight has been satisfactorily made.
  - (iv) **EXPERIENCE.**

The applicant must submit proof of at least 50 hours in the air as pilot in sole charge of an aircraft.
  - (v) **SPINS.**

The candidate shall satisfy the examining officer as to his ability to recover from both left and right hand spins.

8. All flights in the case of a test for a certificate for types of aircraft of less than 2,000 pounds gross weight shall be carried out with the pilot alone in the aircraft. Tests for certificates for other types shall be carried out in an aircraft of the type with the necessary crew, if any.

9. A candidate who desires a licence permitting him to fly a type of aircraft equipped with two or more engines will be required to undergo a practical test of his ability to fly and manoeuvre such an aircraft with each engine in turn completely throttled down.

10. If available, a barograph shall be carried on all flights, and the graph, signed by the examiner, shall be attached to his report, which will cover all incidents, especially the aightings.

11. The technical examination will be upon the subjects and will include the practical tests indicated:—

- (a) Theoretical knowledge of the resistance of the air as concerns its effects on wings and tail planes, rudders, elevators, and propellers; functions of the different parts of the aircraft and of their controls.
- (b) Assembling of aircraft and their different parts.
- (c) Practical tests on rigging.
- (d) General knowledge of internal combustion engines, including functions of the various parts, a general knowledge of the construction, assembling, adjustment, and characteristics of aero-engines.
- (e) Causes of the faulty running of engines and of breakdown.
- (f) Practical tests in running repairs.
- (g) Knowledge of rules as to lights and signals, rules of the air, and rules for air traffic on and in the vicinity of aerodromes and seaplane stations.
- (h) Practical knowledge of the special conditions of air traffic and of international air legislation.
- (i) Map reading, orientation, location of position, dead reckoning, elementary meteorology.
- (j) Practical test on compass swinging.

12. A medical examination will be made by a medical officer approved by the Minister of Transport, and in accordance with the medical requirements of the International Commission for Air Navigation.

## CONDITIONS OF ISSUE OF PUBLIC TRANSPORT PILOT'S CERTIFICATE

1. Public Transport pilots' certificates will not be granted to persons under 23 years of age or over 45 years of age.

2. Certificates will be issued only after flying tests and practical and technical and medical tests and examinations as set out below.

3. Public Transport pilots' certificates will be issued in respect of definite types and models of types of aircraft on which the candidate can establish satisfactory proof of at least two hours' solo flying.

4. A certificate issued in respect of one or more specified types of aircraft is limited to aircraft of the specified type or types, but may be amended to include additional types, subject to the following conditions:—

- (a) That the holder may not take charge of any aircraft of any given type until after he has flown an aircraft of that type for two hours, either under instruction or alone in the aircraft.
- (b) That the holder may not take charge of any aircraft unless after he has flown an aircraft within six months for at least one hour, either alone or under instruction.

(NOTE.—The expression "take charge of" is interpreted to mean that a pilot may not fly any aircraft for hire or reward, or with passengers, other than with any necessary crew.)

5. Certificates are subject to the holder if of the male sex passing a satisfactory medical examination at least every six months and if of the female sex at least every four months and after any serious accident or illness, and may be cancelled at any time for cause.

6. The holder of a Public Transport pilot's certificate will not be permitted to give dual flying instruction unless specially authorized.

7. The applicant must submit proof of at least 500 hours in the air as pilot in sole charge of an aircraft.



8. Flying tests, to the satisfaction of the examining officer, for Public Transport pilots' certificates will be as follows:—

(i) **Tests for Taking Off and Alighting.**

(a) A flight, during which the pilot shall attain a minimum altitude of 5,000 feet above the point of departure and finish with a glide, the throttle being fully closed at that height, the alighting made without again opening the throttle, and the aircraft brought to rest within 300 feet of a point fixed beforehand by the examining officer of the test.

(b) Four flights in each of which the pilot shall take off and climb steadily until signalled by the examining officer, whereupon he shall immediately close the throttle and without again opening the throttle shall alight, bringing the aircraft to rest within 150 feet of a mark selected before taking off.

(ii) **Test of Skill.**

A flight, during which the pilot shall fly at an altitude of not less than 1,500 feet above the ground or water around two marks situated at least 550 yards apart, making a series of five figure-of-eight turns, each turn reaching one of the marks.

(iii) **Test of Endurance.**

(a) A cross country or oversea flight of at least 200 miles, beginning and ending at the same point. The candidate shall be informed of his course.

(b) A flight without landing during which the candidate shall remain for a total period of one hour at a minimum altitude of 12,000 feet above sea level.

(iv) **Night Flight.**

Three flights of at least fifteen minutes each made between two hours after sunset and two hours before sunrise, at a height of at least 1,500 feet above the ground or water, on a dark night.

(v) **Spins.**

The candidate shall satisfy the examining officer as to his ability to recover from both left and right hand spins without exterior view.

(vi) **Instrument Flight.**

A flight in the course of which the candidate must, without exterior view, maintain correctly, during thirty minutes, his line of flight and carry out ordinary manoeuvres by the sole use of the instruments on board.

NOTE.—The flying tests designated in the foregoing para. 8 (i) (ii) and (iii) (a) may be waived to the holders of valid commercial or limited commercial air pilots' certificates.

9. All flights in the case of a test for a certificate for types of aircraft of less than 2,000 pounds gross weight shall be carried out with the pilot alone in the aircraft with the exception of the test stated in para. 8 (vi). Tests for certificates for other types shall be carried out in an aircraft of the type with the necessary crew, if any.

10. A candidate who desires a licence permitting him to fly a type of aircraft equipped with two or more engines will be required to undergo a practical test of his ability to fly and manoeuvre such an aircraft with each engine in turn completely throttled down.

11. If available, a barograph shall be carried on all flights and the graph, signed by the examiners, shall be attached to their report which will cover all incidents, especially the alightings.

12. The technical examination will be upon the subjects and will include the practical tests indicated:—

(a) Theoretical knowledge of the laws of the resistance of the air especially as concerns its effect on wings and tail planes, rudders, elevators, and propellers; functions of the different parts of the aircraft and of their controls.

(b) Assembling of aircraft and their component parts.

(c) Practical tests on rigging.

(d) General knowledge of internal combustion engines, including functions of the various parts, a general knowledge of the construction, assembling, adjustment, and characteristics of aero engines, and their lubrication and upkeep.

(e) Causes of the faulty running of engines and of breakdown.

(f) Practical tests in running repairs.

(g) Practical swinging of an aircraft compass.

(h) Knowledge of instruments prescribed for aircraft.

(i) Knowledge of rules as to lights and signals, general rules for air traffic and special rules for air traffic on and in the vicinity of aerodromes and seaplane stations.

(j) Practical knowledge of the special condition of air traffic and of international air legislation.

(k) Map reading, orientation, measurement of distances, calculation of courses, location of position, elementary meteorology.

13. A medical examination will be made by a medical officer approved by the Minister of Transport, and in accordance with the medical requirements of the International Commission for Air Navigation.





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